

FIFTY-THIRD ANNUAL REPORT

OF THE BOARD OF TRUSTEES

OF THE

OHIO STATE UNIVERSITY

TO THE GOVERNOR OF OHIO

FOR THE YEAR ENDING JUNE 30

1923

THE OHIO STATE UNIVERSITY

HONORABLE A. V. DONAHEY, *Governor of Ohio, Columbus, Ohio:*

MY DEAR SIR—I have the honor to present to you the annual report of the Board of Trustees of the Ohio State University for the year ending June 30, 1923, as required by law.

Yours very truly,

JOHN KAISER,
Chairman, Board of Trustees.

TABLE OF CONTENTS

	<i>Page</i>
Report of the President.....	5
Report—Dean, College of Agriculture.....	15
Report—Dean, College of Arts, Philosophy, and Science.....	64
Report—Dean, College of Commerce and Journalism.....	71
Report—Dean, College of Dentistry.....	83
Report—Dean, College of Education.....	85
Report—Dean, College of Engineering.....	113
Report—Dean, College of Medicine.....	127
Report—Dean, College of Pharmacy.....	139
Report—Dean, College of Veterinary Medicine.....	141
Report—Dean, Graduate School.....	145
Report—Dean of Women.....	152
Report—Director, Student-health Service.....	162
Report—Medical Examiner for Women.....	169
Report—Y. M. C. A.....	175
Report—Auditor, Student Organizations.....	178
Religious Census of Students; Occupations of Parents; Enrollment by Counties of Ohio; Enrollment by States and Foreign Countries.....	185
Report of the Trustees—Financial.....	187
 Appendixes—	
I. Board of Trustees.....	191
II. Administrative Officers.....	191
III. Faculty, Instructors, and Employes—Salary Roll.....	192
IV. Work of Instructors—Departmental Reports.....	217
V. Degrees Conferred since the founding of the University.....	258
VI. Student Enrollment.....	260
VII. Degrees and Certificates granted during year 1922-1923.....	261

ANNUAL REPORT OF THE PRESIDENT

HONORABLE JOHN KAISER, *Chairman of the Board of Trustees,
The Ohio State University:*

DEAR SIR—I have the honor to present through you to the Board of Trustees of the Ohio State University for transmission to the Governor of Ohio, as required by law, the fifty-third annual report of the President of the Ohio State University, for the year ending June 30, 1923.

THE BOARD OF TRUSTEES

December 12, 1922, Mr. John F. Cunningham of the class of 1897 resigned his trusteeship because of his removal to Racine, Wisconsin, where he had bought an agricultural paper. He was succeeded in office by Mr. Egbert H. Mack of the class of 1903. Mr. Cunningham had served the University with rare efficiency. His resignation was a matter of universal regret in University circles. Mr. Mack begins a term of service which many hope may continue as did that of his father who served with distinction for twenty-one years until his death.

The term of office of Mr. Charles F. Kettering expired May 13, 1923. He continues to serve under the statutes, which provide that such trustees shall serve until a successor shall have been appointed and qualified. It appears from a carefully prepared opinion by the Attorney General that there is no vacancy existing inasmuch as the statutes provide that such trustees shall serve until their successors are duly qualified. A trustee is not duly qualified until his appointment by the Governor has been confirmed by the senate. The senate was not "in session" and, therefore, no such confirmation as is anticipated by the statutes was possible under the existing circumstances. In court decisions it has been determined that "in contemplation of law there can be no vacancy in an office so long as there is a person in possession of the office legally qualified to perform the duties." Mr. Kettering beyond question is legally qualified to perform the duties of the office and to continue until a successor shall have been similarly appointed and qualified. That cannot occur under the decision of the Attorney General while the senate is not "in session." We may expect, therefore, that the Governor of Ohio next January will appoint a trustee and that the senate will confirm such appointment provided its judgment agrees thereto. Meantime there is no vacancy and Mr. Kettering continues in office. A brief summary of the Attorney General's decision is as follows:

That if Mr. Kettering was duly appointed by a former governor and confirmed by the senate as trustee of Ohio State University, and is now in office under that appointment and confirmation, there is at this time no vacancy in the office to be filled. His successor, therefore, whoever he may be, must be confirmed by the senate before he can lawfully assume the office.

That the senate at this time is not "in session," within the meaning of Section 12 of the General Code, but that fact does not empower the governor to make a recess appointment thereunder of a successor to Mr. Kettering, for the reason that, as above held, there is no vacancy in the office he is now holding.

THE FACULTY

Not many important changes occurred in the Faculty during the year 1922-23. A few new appointments were made and some promotions in the usual ordinary manner. In addition to these there were as heretofore a group of men and women appointed for temporary service in the Summer Quarter. It is not essential that these names be listed in this report as they all appear in the usual statistical reports.

The following appointments with the rank of Professor were made by the Trustees, and the persons assigned to a seat in the University Faculty, viz.:

Miss Lydia Clark, Professor of Physical Education.
 Lewis M. Simes, Professor of Law.
 Herbert Baumer, Professor of Architecture.

The following promotions to the rank of Professor were made and the persons assigned to a seat in the University Faculty:

Wilmer C. Stover, Assistant Professor to Professor of Botany.
 Homer C. Sampson, Assistant Professor to Professor of Botany.
 Harold E. Burt, Assistant Professor to Professor of Psychology.

Appointments to the rank of Assistant Professor:

Chester O. Reed, Department of Agricultural Engineering.
 Hughina McKay, Department of Home Economics.
 Charles G. McBride, Department of Rural Economics.
 Lawrence F. Hill, Department of American History.
 Ward G. Reeder, Department of School Administration.

Promotions from lower rank to Assistant Professor:

Franklin C. Wagenhals, College of Medicine.
 Paul Bucher, Department of Mechanical Engineering.
 John E. Shepardson, Department of Electrical Engineering.
 A. Sophie Rogers, Department of Psychology.
 Clarence H. Kennedy, Department of Zoology and Entomology.
 Wencil J. Kostir, Department of Zoology and Entomology.

The tendency to increase the number of persons having the rank of professor is very strong. It is perhaps too strong for the welfare of the University. The teaching body becomes out of proportion when so many persons are promoted. Furthermore the very decided tendency of persons with the rank of professor to find reasons for light teaching schedules under the guise of research is a decided evil. If we may rely upon the testimony of apparently competent persons elsewhere, it would be safe to say that not over one-third of the teachers of the colleges of the country are capable of any important research work. It would hardly be true, however, that these same persons could not develop into very useful and important members of the Faculty through superior teaching. There is a revival at present of the importance of teaching in the universities of the country which may attract attention and furnish a basis on which the salary of an important teacher may be as high as that of an important research man, and perhaps higher than that of a third rate research professor. It is quite natural that persons giving their lives to university work should expect within a reasonable period to receive the rank of professor. It will be a better day when that recognition comes as freely for superior teaching as it now comes for alleged research. It is quite obvious that the large number of men and women engaged in the University Faculties throughout the country would have a difficult task in justifying promotions for a majority of them on the ground of important research. There is room for reform in this matter in which I trust the Ohio State University will not be a laggard.

ENROLLMENTS, STATISTICS AND DEGREES

The completed statistics on the topics of this paragraph will be found in the several appendixes and only a brief comment is necessary. The statistics will reveal a steady increase in the number of students and a very satisfactory distribution of these students in the counties of the State. The census cards upon the religious and occupational activities of the parents and the students will reveal the fact that the University ministers to all the different types of citizens in the commonwealth. The religious background of the students reflects the educational ambitions of Christian people while the occupational statistics show interesting facts as to the source of the student supply. This revelation will not be at all pleasant to those who believe that higher education should limit itself to the intellectual classes and the more favored children of a generation. The statistics, however, are very gratifying from the standpoint of the reasons set out in the land-grant act for the founding and maintenance of this institution. I dare say that the legislature would be very much more pleased in reviewing these statistics than the average teacher would be.

The number of degrees granted increase from year to year but special mention should be made of the fact that the Graduate School has developed a very commendable record within the last few years under the leadership of Dean McPherson and the Graduate Council. The fact that many of these students have had their undergraduate education elsewhere is also gratifying to those interested in the development of graduate work.

THE LIBRARY

A very wide satisfaction exists because of the fact that the legislature at the last session made an appropriation of \$50,000 annually for the two years for the Library. There are some other sources of support for the library in the way of special endowments which are important but not large. This action of the legislature, however, was the most generous provision ever made for a similar period. It is proper to record the gratitude of the Trustees and Faculty for this recognition of the service rendered by the library.

A word or two by way of comment will not be out of place. The modern land-grant college organized as a university attempts to provide facilities for education in a large number of fields. This is not simply to offer elementary courses in these various fields, but to offer opportunities for advanced study and some research work in practically every field of modern education. This demands of the library a supply of books much larger than is ordinarily presumed. The report submitted by a special committee prior to the meeting of the legislature revealed the fact that Ohio State University was in need of increased appropriations if the university were to present a library comparable to those of the State Universities of the middle west. The committee believed then, and I think the belief is still prevalent among all of us, that if the appropriation had been double the amount it would more nearly have provided for the needs generally recognized by the Faculty. Another important consideration is that the Ohio State University, located as it is in the center of the State, should eventually develop the most important scholars' library in the commonwealth. As the President has remarked at other times, there is in this library a very clear call for endowment and support at the hands of private sources where money could be made available for library purposes. It is hoped that the University will not need to depend exclusively upon the

State for the building up of a library such as the University of the commonwealth needs.

STUDENT HEALTH SERVICE

The importance of this work has been demonstrated so clearly that it warrants further support. An additional appointment will probably be made for the coming year. The report submitted by Dr. Wingert is ample justification for such an appointment. The facilities for this work have been improved and the number of students receiving aid or counsel has increased from year to year. The preservation of health is so vital in the student's experience that a distinct effort to develop a sentiment of that sort was justifiable.

AUDITOR OF STUDENT ORGANIZATIONS

In March, 1922, Miss Edith M. Auch, a graduate of Miami University, was appointed as Auditor of Student Organizations. This was a new venture in University experience, based upon the belief that an official audit of all student organizations would be a helpful service to these organizations, and at the same time avoid the unsatisfactory experiences incident to more or less irresponsible student organizations. The authority granted to the President and the resolutions of the Board of Trustees, as set out in the first annual report of Miss Auch and inserted as appendix to this report, will reveal the fact that the policy was to provide the service and, by virtue of its character, commend it to student organizations. No effort was made to force an audit upon these organizations, but every effort was made to show that such an audit, accompanied by the blanks provided and the advice and counsel of an auditor, would facilitate the business of these organizations, and protect them against many unfortunate experiences.

Reference to the annual report of Miss Auch reveals the fact that for the first year eighty-four student organizations have submitted their accounts to the auditor. The report shows also that for these 84 organizations, 239 audits were made. Eighteen of these organizations show a loss for the year, while 66 of them show a gain. The net gain of all organizations was \$16-226.57. The total receipts for the year were \$111,440.12. The disbursements were \$95,213.55. An examination of the details of this report will gratify and perhaps satisfy any reader that the service rendered has been a thorough justification of the inauguration of this new activity. There are many organizations existing on the campus not yet included in this audit. The President has power and authority to order the audit of any organization, but has been slow to exercise such authority, believing that the value of the service will soon bring practically all organizations handling funds to see that a co-operative helpful service, responsible to the President of the University, will insure not only the integrity of service, but its business-like character, and in the end reduce costs and increase profits for these organizations. The first report from the auditor is printed in full as an appendix to this annual report in order that both faculty and students interested in the new venture may have complete and full information.

OHIO STATE ALUMNI ASSOCIATION

It is well worth while for those interested in the University to understand the excellent service rendered by this Association under the leadership of Mr. J. L. Morrill the Secretary. Aside from publishing a very creditable magazine and thus giving to the Alumni and University friends generally a

reliable body of information, the Association has organized and developed a number of interesting programs for the University. Co-operation between the Athletic Association and the Alumni Association is aided by this organization in a most effective way. The committee on publicity was originally suggested from these sources, and under the leadership and direction of a small executive committee in which the President is recognized, the publicity for the University throughout the country has been free from the objectionable features so often characterizing university and college publicity. The very common notion that publicity is vital to an institution and that athletics is the sole and almost exclusive source of such publicity has led to a rather careless method of announcement. It is gratifying to know that at the Ohio State University no important movement is set on foot until a conference with all parties concerned has been held and an agreed program is then put into effect. The Alumni Association thus becomes an agency for aiding the University as no other organization is able to do. The President has found Mr. Morrill a most effective assistant in university policies and recognizes the value of the service of such an official not only to the University but to the University Association as well.

The further development of the work of the Association depends largely upon its support by the alumni and the University. There is no good reason why the University should not make provision for some support of such a movement. On the other hand the existence of an Alumni Association is for the purpose of assisting and aiding the University in its large and forward-looking programs. In order to be effective to the last degree an Alumni Association should become not only self-supporting but should develop such activities as will contribute materially to the equipment of the University. It may be appropriate here to add that State Universities, and Ohio State University in particular, need the support of their alumni quite as really as they need the support of the State. A few years ago it was stated that 40% of the cost of all buildings on the campus of the University of Michigan had been provided by alumni and friends. That proportion would change, of course, with every new building. The important consideration, however, is that the alumni of the University of Michigan have seen the importance of making contribution to the University. They are able in this way to do precisely and accurately the thing the University desires to have done. They do it in a way also pleasing and satisfactory to the donors and to the alumni. It often happens that legislative appropriations carry restrictions that prevent the free exercise of liberty in the development of plans for specific purposes. It is always true that there is a place on the campus where the alumni may do the beautiful thing without interference. The rapid growth of the modern State University has left so many gaps to be filled that it seems impossible to carry the program without the assistance of alumni and personal friends whose money is available.

SOCIAL AND RELIGIOUS OPPORTUNITIES

The social and religious opportunities surrounding a large university are of the highest importance. At this institution there are several well recognized agencies. The first and most important of these is of course the organization of the office of the Dean of Women whose service lies chiefly in the fields of the social life of the young women, the provision for satisfactory housing for those not provided for in the university dormitories, advice and

counsel, and the general regulation of student activities through student committees and organizations having to do with the social life of both sexes.

Other agencies are represented by the Young Men's Christian Association and the Young Women's Christian Association whose activities are closely related to the social and religious life of the student body. Mention should also be made of the voluntary service rendered by the student pastors and by churches near the campus. The Methodist Episcopal Church has secured ground and opened up a headquarters for social life for students. The Presbyterian Church has provided for dormitory service on Fifteenth Avenue and a general headquarters on Neil Avenue. Other denominations in a less pretentious but very effective way are engaged in the same work. The Protestant Episcopal Church, e. g., has for years maintained St. Hilda's Hall and has appointed a student pastor.

There is a decided tendency among the well-informed students to organize in the interest of greater efficiency especially with reference to Dramatic Clubs, Glee Clubs and other organizations presenting entertainments or programs to the public from year to year. One not acquainted with the facts would be greatly surprised by the magnitude of these activities and of the success with which they are ordinarily operated.

One would think from reading the reports of institutions and the comments in current newspapers, that the social life of students including its moral ideals is a source of grave concern. There is no doubt that the period covered by high-school and college life is and always has been the source of considerable concern to parents. The apparent breach between the older and younger generations does not present special cause for concern on the University Campus. The students in our colleges and universities represent a somewhat conservative group of the population between the years of 17 and 25. Their ideals are higher; their standards are better enforced and the moral lapses that occur in student life are few enough to warrant the generalization suggested above. This statement is not intended to blind ourselves to the very vital importance of an energetic and persistent effort to keep the current of student life clear and clean. A single student going to wreck and ruin gives the University a shock. It is to be profoundly regretted that occasionally young men and young women are found whose moral standards are low and whose lives show degenerative tendencies. This is so out of harmony with educational ideals and ambitions as to be a source of discouragement in individual cases. The discipline of the University applied to such students is pretty severe. There is no disposition to retain at the University a student who shows lack of moral fitness. Indeed this is a much more serious offense than the lack of intellectual power, serious as that may be. The time is probably not far distant when the students themselves will take a much more prominent part in student control than at present. There is no good reason why the Faculty and all agencies of the University should not co-operate with students and encourage them in their own initiative in all matters of student activities.

ATHLETICS

There is submitted herewith a brief comprehensive statement of the financial situation of the Athletic Association. Inasmuch as the building of the Stadium was one of the great activities during the year, it will not be without interest to make a permanent record in the Board's minutes of the

outstanding features of the finances of the Athletic Association. The detailed report showing all the activities with their receipts and expenditures has been submitted to the Board of Trustees. The report included herein is for the purpose simply of noting the progress of the status of the finances.

Receipts from all activities for the year were \$374,756.96 of which foot ball produced \$289,075.56. The other sports lost money.

The net profit was \$181,807.95. Out of this was paid:

Salary Budget	\$43,856.29
Operating Expense	34,861.05
Stadium Building Committee	89,000.00
Interest on Notes	19,270.72

At the end of the year notes outstanding amounted to \$476,000.00.

The cash balance at the opening of the year was \$11,652.85. At the close of the year the balance was \$677.13. A complete statement giving itemized statement of all receipts and expenditures for the year has been filed with the Board of Trustees and with the President.

Two distinctive features command the attention of the Ohio State University. First, the great and extensive project now under development looking toward a completed Stadium surrounded by adequate provision for outdoor activities and the improvement of the Olentangy River. The improvements will probably continue through a series of years, but the importance of the project should not be overlooked when we consider the activities and expenditure of funds on the athletic field.

The second important consideration is the development of physical education and of a proper spirit of sportsmanship among the students. The popular mind has probably turned in an exaggerated degree to the mere matter of games. The games and all athletic activities have for their objectives the development of a sound theory concerning sport, the development of wholesome social and recreational activities among people who engage in sports as well as among the spectators, and a sound basis of physical health. Athletics, therefore, may be justly criticized in proportion as they meet these or other standards set up by sound theory or by the advocates of athletics. No one would even suggest that the last word has been said, or the highest achievements yet realized. Nevertheless a sane judgment will recognize a steady improvement in the general conception of the place of athletics in education and in our social life. The game of golf among citizens has demonstrated the fact that outdoor life has its attractions. The fact that such a game is not well suited to student life does not weaken the argument but rather emphasizes the importance of developing within universities a type of athletics and of recreational activity that will prepare students for a wholesome life.

This theory of athletics applies with equal force to the recreational life among the women students of the university. By common consent certain games are more popular with one sex than with the other, but by all fairness of argument, or justice of consideration, physical education makes its plea for consideration by both sexes and should have the enthusiastic support of Trustees and Faculties.

The Ohio State University could demonstrate if necessary a healthful progress in athletic life and in the field of physical education. The purpose

of this report is simply to direct attention to the fact that a wholesome progress is obvious.

It is appropriate also to direct attention to the fact that provision is made in the Department of Physical Education for courses of instruction intended to prepare teachers in this general field. The fact that experience with our graduates on the part of High Schools has demonstrated the value of such instruction tends to increase its importance in the minds of prospective teachers. The manifest duty of the University is to keep its athletic work and its educational instruction in line with the progress and increasing demand throughout the country for young men and young women whose instruction has been on a sound basis and whose minds are clear and wholesome on the place of physical development in the general theory of our education.

REPORTS OF DEANS

Special attention is invited to the reports of the Deans presented herein. These reports set out very clearly the general conditions of the Graduate School and the several colleges. It has been necessary to eliminate from these reports, on account of the lack of space, certain statistical information which is important for purposes of administration but probably not of equal importance in a public document.

There will be noted a considerable divergence of opinion in these reports. This is as it should be. There is no reason why we should expect a university with as many colleges as are found on the campus of the ordinary land-grant university to be in general agreement upon the details represented by the different interests. It is from these variant views that we finally discover the best policies to be maintained. There is a tendency, however, for men to overlook the importance of interests other than their own. The University should always be tolerant, therefore, but not to the point where indifference takes possession of the Faculty or the administration.

The discussions concerning the objectives in education, if one may judge from the reports of Presidents and other officials, would seem to show a very wide divergence over the entire country. Most of these reports proceed from the standpoint of what is alleged to be liberal education. It would be well to carry in our minds the fact that two generations ago the country had a great many small colleges but not very large universities. After the Civil War the development of the country brought an increased activity in the interest of the popular education of the masses. This outlook was toward a further development of science and eventually took strong hold through the land-grant colleges on vocational and professional education as is witnessed by the development of the colleges of Agriculture, Engineering and others that represent clearly the vocational and professional point of view. In most of these universities there exist today colleges or organizations having to do with the subjects just named, and also with Education, Commerce and Journalism, Medicine, Law, Veterinary Medicine, Pharmacy, and other types of education where the vocational idea is dominant. If we were to take from the public education of the country in high schools and universities the factors bearing upon this phase of education we should soon revert to the old situation of educating a very small percentage of the population. No large percentage of the people has ever sought a liberal education. That percentage may increase as wealth and leisure increase, but it will never be relatively large. The people

of the country are committed, however, to the education of the masses of the youth and the higher education of as many as can be adequately provided for. The theory of this public education frankly is to improve the condition and outlook of the large numbers of people.

So obvious is this general situation that the tendency has been to increase all forms of technical education. Even the College of Arts all over the country has become in recent years more a prescribed institution than it was after the origin and development of the elective system. This College is now engaged in preparatory work for medical education so far as it enrolls prospective medical students. The tendency among the colleges has been to restrict the elective privilege and to prescribe certain definite lines of study as essential conditions of receiving the Bachelor's degree. In addition to this general tendency the zeal for scholarship which is most commendable, has taken the form of the technical testing of students through Intelligence Tests, frequently misunderstood and abused, and technical methods of maintaining standards, until the most liberal education found in a modern university is probably given in the College of Law. This reference is not to Ohio State University only but to the Law Colleges of the country. Probably more progress has been made in this type of education than in any other in the past decade. The fact that the College of Law requires two years of foundation education, but has not insisted upon the subjects to be pursued, shows a liberal attitude of mind restricted only by the specific conditions required in the freshman and sophomore years of students in the College of Liberal Arts. This prescribed restriction is due to the fact that the College of Liberal Arts usually assumes that freshmen and sophomores will eventually become candidates for degrees. The student is thus put to a pretty shrewd game of outwitting the Faculty and of winning his way. President Hibben tells the story of a few Princeton students on a given occasion being in some doubt as to how the evening should be spent, it was agreed to toss a penny with the understanding that if it came down heads they would go to the movies; if it came down tails they would go to a dance; if it came down on the edge and stood there they would study. A saving sense of humor in the University Faculties might do as much to advance liberal education as many of the mechanical devices often misused or abused that consume the time of the professor, develop the shrewdness of the student and are solemnly recorded as evidence of scholarship. No sympathy is here expressed with the common theory that the education of the country is going to destruction, or that civilization is perishing. The present generation is probably as diligent as any other generation has been. It is our own supreme privilege to criticize ourselves. This may save us from adverse criticism in the next generation.

The academic year in all its general outlines has passed with no unusual breaks in the continuity of the work and with no exceptional features to attract particular comment.

The general health conditions of Faculty and students have been good. The co-operation of Faculty and students in all matters of interest to both parties has shown most commendable features.

The operation and maintenance of the plant is a matter of great importance to the welfare and prosperity of the university. It is gratifying to report that this division of the University's activities has had a most prosperous year. A number of new enterprises are now in way of preparation, which will be a subject of report for the next year. I am pleased to add that the

fideliity and trustworthiness of the employees of the University is a most gratifying feature and makes the operation of the plant, upon which our activities rely, a matter of continual satisfaction. The President desires to place on record his own appreciation of the fine spirit shown toward the administration by the Trustees, the Faculty, and executive officials engaged in matters of administration, and to the executive officials engaged in operating the plant. All these factors contribute toward a successful administration more than is ordinarily understood.

There is submitted as a part of this report the usual statistics required by law, and the reports from the several colleges and from departments and other divisions of the University's activities.

Respectfully submitted,

W. O. THOMPSON,
President.

ANNUAL REPORT OF THE COLLEGE OF AGRICULTURE

For the Year Ending June 30, 1923

PRESIDENT W. O. THOMPSON, *The Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Agriculture for the year ending June 30, 1923.

I am transmitting the reports of the several departments exactly as they were presented to me because I desire you to learn the point of view of the various departments, and because I feel that this material should become a matter of permanent record. The second copy of the report is somewhat abbreviated for publication by removing the statistical matter which appears elsewhere in your printed report.

The total enrollment in the College for the year was as follows:

Degree Courses in Agriculture.....	656
Degree Course in Home Economics.....	304
Three-year Course.....	43
Eight Weeks' Winter Course.....	86

Total..... 1089

While this enrollment is about the same as last year, it is noticeable that the freshman enrollment in Agriculture showed a marked increase over the preceding year, which seems to indicate that the young man of college age is taking a healthier view of the opportunities for college men trained in agriculture than he did two years ago. The College graduated 200 students during the year but we still were unable to meet all demands for young people with the education provided by this College.

The month of March of this year witnessed the ending of the Three-year Short Courses in Agriculture. It was decided to drop these courses when the University adopted the four-quarter plan. A large number of the students who attended the Short Courses had full entrance requirements for the standard degree courses and these can now be accommodated by using the autumn and winter quarters which cover practically the period devoted to the short course. Such students will probably be better satisfied with the kind of instruction given in the standard courses. To care for those who cannot meet the requirements for the standard course the Winter Course is being much broadened in its scope.

This year for the first time a short course was given for managers of grain elevators, featuring management, accounting, and grain grading and standardization.

The first year under the Four-quarter Plan has justified the faith that the faculty of this College had in its value to our students. The effect upon the student has been beneficial in many ways. The average grades of the students have been higher than previously, partly due to the greater concentration upon a small number of subjects at any one time, but also partly due to the closer supervision which the Dean and Secretary have been able to give the students. We feel that there has been a generally better attitude on the part of the students toward their work. Many of the agricultural students took advantage of the spring quarter to return home to help on the farm and some are expecting to complete the course by going to college only

in the autumn and winter quarters. The arrangement of attending college in the autumn and winter quarters and working on the farm during the spring and summer is almost ideal in agricultural education.

You will also note that most of the departmental reports speak favorably of the quarter plan, especially those where some thought has been given to the best utilization of the fourth quarter on the part of the instructor as well as to its advantages to the student.

The Dean and Secretary appreciate the quarter plan because of the more frequent opportunities it gives them to check up on the students, and to fit the courses to the greatest need of the student as soon as he is able to determine the desired objective of his college training.

The changes in faculty during the year were remarkably few. Professor Elwood resigned his position in Landscape Architecture at the end of the year as did also Professor Jacoby as Head of the Department of Poultry Husbandry. These positions will have to be filled in the near future.

The College found itself embarrassed all through the year by its inability to care for all the students desiring courses in Botany and Zoology because of both insufficient teachers and equipment. This situation has fortunately been corrected for the next year so there should be no further difficulty in that score.

The College faculty expressed itself strongly in favor of a more elastic method of conducting examinations and has put into effect a number of devices for improving student scholarship.

One of the most gratifying things of the year has been the keen interest shown by several of the younger members of the faculty in the matter of the improvement of their own teaching methods. This group met weekly during most of the winter and spring quarters to discuss methods for improvement of teaching and many of the methods so discussed were put into practice in the classroom with satisfactory results. This group keenly appreciates the assistance given to them by certain members of the faculty of the College of Education.

Beyond the organization of the work in Landscape Architecture into a definite curriculum, very little was done during the year in changing courses of study. The faculty in general seems to feel that the present courses should be given a rather thorough try-out before any marked changes are made.

The All-Ag Council whose organization was reported to you last year has continued to function in a very satisfactory manner. I feel that this group has had a wholesome effect upon student activities within the College. It has been of great assistance to the Dean in his efforts to work in closer relationship with the students of the College. As a means of communication between the Dean and the student body as a whole it has been of great value. Through the All-Ag Council it is also possible for student opinion to be officially brought to the attention of the Dean.

The new set of five buildings to house the flocks and herds of the Department of Animal Husbandry are practically completed. With a few minor additions to the buildings themselves and the completion of the grading and improvement of the site, the College can congratulate itself upon having one of the most handsome and practical sets of college barns to be found anywhere in the country. It is to be hoped that the Administration Building for the Department which is to accompany the group may be completed in the

near future. Other buildings are badly needed by the College but this hardly seems the place to discuss these needs.

The Dean, in addition to his duties in administering college and extension activities, is also general manager of the University farm. The farm has been growing rapidly during the last few years by purchases and lease of land lying west of the Olentangy River. The University now owns 485 acres of land which is devoted to agricultural and horticultural purposes and has under lease an additional 292 acres. Of this last amount the purchase of about 150 acres from Mrs. Anna Waterman has been provided by act of legislature and will become University property on July 1, 1923.

Parcels of land of various sizes have been allotted to several of the departments for experimental and other uses connected with the work of the College. The remainder of the farm is under the general management of the Dean through what is known as the Division of Farm Operations. The Division of Farm Operations also provides teams and drivers for the departments when needed and does a certain amount of teaming connected with the work of the campus as distinguished from the farm. The larger part of the crops raised are used in feeding the animals that are used primarily for classroom instruction. The following are the principal crops produced by the Division of Farm Operations during the past year:

Wheat, 1033 bushels; oats, 1867 bushels; corn, 3900 bushels; soy beans, 266 bushels; straw, 86 tons; hay, 295 tons. A certain amount of the soy beans and the Fulghum oats was sold for seed purposes, while the wheat was sold to the mill with the exception of that used at the poultry plant. All of the land on the farm needs tile drainage and fencing and gradual progress is being made in both of these lines of improvement. It will take some time to make all the improvements desirable on a college farm, but the University is to be congratulated upon the foresight shown in building up this estate while it was still possible to obtain the land. It will be more and more appreciated as the years pass.

Respectfully submitted,

ALFRED VIVIAN, *Dean.*

REPORT OF DEPARTMENT OF AGRICULTURAL CHEMISTRY

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Agricultural Chemistry for the year 1922-1923.

The present Department of Agricultural Chemistry was established as a separate department July 1, 1922. For some years previous to that time Agricultural Chemistry and Soils had been organized in one department with the two divisions as indicated. The separation into two departments makes possible for both divisions a more unified program of work, while it does not interfere or hamper in any way the work of the divisions because of a splitting up of equipment and apparatus. For example, both departments use the same large laboratory, and the same classroom for their elementary courses, while apparatus is cheerfully loaned by one department to the other.

The Four-quarter Plan, which went into effect July 1, 1922, has been very satisfactory to this Department. We have been able to carry on our program under this plan without adding to our instructional force. If we adopt the policy, however, of repeating the elementary courses in each quarter some addition would be necessary.

During the year a total of 449 students were enrolled in the courses of the Department. While this is an apparent reduction from the 608 of last year, the decrease is not real because of the combination of Courses 101 and 103, the first covering the lecture, the last the laboratory work, now embraced in Course 401. Under the former plan 180 students were counted twice in 1921-1922, while there is no such repetition in this year's total.

CHANGES AND ADDITIONS IN THE CURRICULUM

The following changes have been made in courses and curriculum during the year.

1. All the courses have been given new numbers in accord with the general plan adopted by the University when the change from the Semester to the Four-quarter Plan was made.

2. Courses 101 and 103, lecture and laboratory, respectively, in General Agricultural Chemistry, have been consolidated into one course as indicated above.

3. A new course called Special Problems, in which graduate students can carry on special problems not necessarily connected with dissertation or thesis work, has been added.

4. A seminary course, in which the graduate students of the Department can gather, review, and discuss the current literature pertaining to Agricultural Chemistry, has been added.

CHANGES AND ADDITIONS IN EQUIPMENT

The Division of the Department of Agricultural Chemistry and Soils into two separate departments made necessary some arrangement in regard to the equipment held by the Department. It was finally decided to divide the equipment between the two departments in order that the inventory could be kept in better shape. Accordingly such a division was made to the satisfaction of both parties. The only large addition to the equipment of the Department was a Bates type saccharometer costing about \$1200. This instrument is of the very best construction and will be of great value, particularly for research purposes.

RESEARCH

During the year Mr. Lyman has kept a colony of from 50 to 100 white rats which have been used in studying the relative nutritive values of patent, whole wheat and wheat-minus-bran flours. The diet of all of these rats has contained approximately the same amounts of cereal, vegetable, meat, and dairy products as are used in the average American home. The object of the experiment is to determine whether any advantage or otherwise results from the use of patent flour. While the experiments are not complete the results of about a year's work indicate that there is considerable advantage, as shown by better growth and reproduction, in using whole-wheat flour rather than the patent flour of commerce. It was further found that, regardless of the kind of flour used, maximum growth and normal reproduction were impossible in rats fed a diet typical to American custom. The chief difficulty of this diet is its low mineral content, particularly its deficiency in calcium. When this mineral defect is corrected by the addition of calcium phosphate to the diet, young rats grow thereon at the maximum rate; but there are differences in reproduction, depending on the kind of flour used in the ration. Litters of young are more frequent, of larger numerical size and grew at a more rapid rate when whole-wheat flour is used than when patent flour is fed.

Dr. Phillips has made some progress on his problem of Nitrogen Metabolism in Plants.

Mr. Almy is studying the effect of porteins, e. g., the casein in milk, on the quantitative determination of sugars.

EXTENSION SERVICE

A four-page extension circular on Vitamins has been prepared by Mr. Lyman and published during the year.

PUBLICATIONS

Lyman, J. F. Vitamins, Bulletin, Ohio State University Agricultural College Extension Service.

RECOMMENDATIONS

The Department is housed at present on the second floor of Townshend Hall, a part of the attic being used as an animal room. There is no space available in Townshend Hall for the Department to expand. A research laboratory, a library room, a stenographer's room, a laboratory for advanced students, a suitable animal room and private laboratories and offices for the departmental staff are much needed. A serious objection to our present quarters is that the plumbing is defective and leaks into the offices below are frequent and unavoidable. The construction of Townshend Hall is not modern and the fire hazard of a chemical laboratory in such a building is very great. The needs of the Department can be met only by providing quarters elsewhere.

Respectfully submitted,

J. F. LYMAN.

DEPARTMENT OF AGRICULTURAL EDUCATION

DEAN ALFRED VIVIAN, *College of Agriculture*:

DEAR DEAN VIVIAN—I respectfully submit the following report of the Department of Agricultural Education for the year 1922-1923:

Progress in the work of the Department has been made in the improvement of the courses already offered, in the offering of additional graduate courses, and in the attempt to render service in promoting a seminar or series of regular meetings of the interested members of the faculty of this College for the purpose of considering improvement in methods of teaching.

Changes in personnel have been made due to the resignation of Mr. F. H. McMillen as itinerant teacher trainer, Mr. George G. Everhart as instructor in the training department at Canal Winchester, and Mr. Harry Atwood as instructor in the training department at Hilliards. These vacancies have been filled by the promotion of Mr. H. G. Kenestrick from the training department at Grove City to the position of assistant professor and itinerant teacher trainer; to the vacancy at Canal Winchester, Mr. Carlton F. Christian, a 1922 graduate, was elected; the position at Hilliard was filled by Mr. E. O. Bolender, for four years a successful teacher at Ashley; and the position at Grove City was filled by Mr. John B. McClelland, for one year a successful teacher at Sidney.

CHANGES AND ADDITIONS IN CURRICULUM

By taking advantage of the opportunities provided through the quarter system, the courses in Observation Teaching of Vocational Agriculture 402 and Supervised Teaching of Vocational Agriculture 403 are being scheduled concurrently by as many students as possible, which makes it possible for the teacher-training staff to alternate Observation Teaching and Supervised Teaching to the extent that the students are able to profit a great deal more from the alternation of experiences than was possible under the old arrangement, when all observation preceded supervised teaching. New courses for advanced undergraduates and graduates are offered under the titles, "Agricultural Education and the Vocational Education Movement," Course 603, and "A History of Agricultural Education," Course 602. The former course is elected this summer by a group of five graduate students.

Also, there is offered for the benefit of graduate students a series of special problems designed especially for the development of supervisors and teacher trainers. In this work four students are enrolled this summer.

SUPERVISION

Due to the offering of courses five days in the week under the quarter system instead of three days a week as previously, members of the Department engaged in resident teaching have had no opportunity to give regular time to the supervision of the teaching in the agriculture departments in the high schools of the state. This condition brings with it some losses, but it is planned to avoid any serious losses in this direction by arranging for an occasional quarter, possibly each year, when members in turn may give time to work in the field, thus keeping in touch with the needs, the experiences, and the development of the state program.

During the absence of State Supervisor of Agricultural Education, Mr. Fife, while in attendance at Cornell University last summer, Mr. Stewart acted as state supervisor, with offices in the Department of Education.

The entire staff, in co-operation with the state supervisors, assisted in promoting district conferences during the months of October and November, at which time at least one member was in attendance at each of the eleven conferences thus arranged.

It is desired to maintain a continuance of the highly satisfactory relationship with the state supervisor and his assistant, which brings to the teacher-training department the benefits of the experiences of the supervisory staff in developing the training program. The sympathetic co-operative spirit which Supervisor Fife has always shown is most highly appreciated by members of this department.

TEACHER TRAINING

The duties of Mr. Kenestrick as itinerant teacher trainer have involved an extensive and varied program, credit for which must be given largely to him, since it is his own initiative and insight into the needs of the teachers which was largely instrumental in the development of this program. Mr. Kenestrick made 84 visits of from one to three days each to 48 teachers in the state. His services were confined largely to the beginning teachers and to others found to be in special need of help by the supervisors. It is a pleasure to report that this phase of the teacher-training program has been more nearly satisfactorily met by Mr. Kenestrick's services than has been the case in any year since the work was organized. In addition to his two years of teaching experience in the training department at Grove City and his special work in Cornell last summer, his viewpoint, his discerning judgment, and his keen observation have been important factors in making the work a success.

To Professor Nisonger belongs the credit of continuing the improving of the work begun in the training schools, which have received mention from the Federal Board for Vocational Education as being among the four best training departments in the United States.

Due to the imperative demand for instruction in farm shop on the part of vocational teachers, the services of Mr. W. F. Bruce were employed during the first term of Summer School and also during one week following for the offering of a course in farm-shop instruction. The instruction given reflected great credit upon Mr. Bruce in consideration of the large number enrolled and the crowded condition in which the work was offered. During the Winter Quarter Professor Kenestrick offered a similar course for the Department of Industrial Education with an enrollment of 18 students. These two attempts at offering instruction in farm shop have been decidedly instrumental in demonstrating the place of farm-shop instruction in the curriculum of the College and the type of instruction most desirable. It is highly desirable that the offering of this course be continued for the benefit of all prospective teachers and, if desired, for the benefit of other interested students in the College of Agriculture.

The work in the training schools this year under the immediate charge of the five instructors has been the most nearly uniform and the most satisfactory of any year's work yet presented. Commendation should be made of the unusually high qualifications of each of the training teachers and appreciation is also expressed of the splendid co-operation and tireless efforts which they

have put forth in developing their individual programs in their respective communities.

In addition to the district conferences mentioned, which were held under the direction of the state supervisors and teacher trainers, the following activities are mentioned:

A special conference for teachers of vocational agriculture in the state was held at the College of Agriculture July 29 to August 2. At this time, 110 teachers were in attendance. The program consisted of professional improvement carried on through special addresses, committee meetings, a round-table discussion, and technical improvement secured through lectures and demonstrations conducted by various members of the resident teaching staff and extension service. A similar program is contemplated for the coming summer.

The monthly News Letter has been prepared more or less regularly for the benefit of vocational teachers and supervisors as an agency in which suggestions and information have been transferred to the workers in the field.

Considerable time was given, particularly by Professor Nisonger, in assisting in the organization of tractor and farm machinery short-unit courses and in the training of special instructors for offering these courses. The special instructors were trained for a period of 10 days at the College through the co-operative agencies of the Departments of Agricultural Engineering and Agricultural Education. A summary of the part-time work offered in the state the past year shows that 42 short-unit courses in farm machinery and tractors were offered by special instructors and that about 30 other part-time courses were offered by regular instructors.

PROFESSIONAL IMPROVEMENT OF COLLEGE TEACHERS

Feeling a need for a study of better methods of college teaching, the members of this department jointly with other members of the faculty arranged for a meeting of interested members of the faculty for the purpose of giving regular time to the study of improved methods of college teaching. The response was so satisfactory that the meetings were continued through the Winter and a major portion of the Spring Quarter. The attendance varied from nine to 27 members. The response and appreciation shown prompt the feeling that the work was beneficial. While the Department of Agricultural Education had no desire to be unusually prominent in advancing this work, it seemed the opinion of those in attendance that this department should assume the leadership, which was reluctantly accepted. Professor Nisonger acted as chairman one quarter and Professor Stewart the second quarter. Both were active in arranging the programs. The opinions expressed by various members in attendance have indicated not only benefit from the meetings but also benefit to their departments from the discussions and conferences dealing with the subject of methods. The desire was expressed that graduate students and instructors might improve their preparation for teaching positions by pursuing one or two courses designed primarily for the improvement of college teaching. It is in this direction that the department desires to enlarge its services, only, however, in so far as its experiences and qualifications seem to merit its proceeding.

GRADUATE WORK

During the Spring Quarter Professor Nisonger carried two courses in graduate work, and likewise during the present summer he is continuing his graduate work with the intention of completing the work for his master's degree in the near future.

RESEARCH

Problems in research are being undertaken partially through special studies in graduate courses. At present, community surveys in teaching secondary agriculture are being developed and applied; also intelligence tests in agricultural subject matter. However, developments at present are not ready for announcement.

PUBLICATIONS AND ADDRESSES

"Rooms and Equipment for Departments of Vocational Agriculture," by Professor Stewart, published by the Federal Board for Vocational Education.

Attendance at the National Society for Vocational Education, Detroit; Mr. Stewart, Mr. Nisonger, Mr. Kenestrick, Mr. Bruce.

District Conference of Vocational Teachers, Jamestown, New York; Mr. Kenestrick.

Rural Life Conferences, Farmers' Week; Mr. Stewart.

Rural Life Club of the University of Pennsylvania. Mr. Stewart.

Indiana State Conference of Vocational Teachers, Indianapolis. Mr. Stewart.

Tennessee State Conference of Vocational Teachers, Knoxville. Mr. Stewart.

RECOMMENDATIONS

It is again recommended that consideration be given to the teaching load necessitated by the addition of new courses for advanced undergraduates and graduate students and that relief be provided by securing an additional member of the staff at as early a date as seems advisable.

Respectfully submitted,

W. F. STEWART.

REPORT OF THE DEPARTMENT OF AGRICULTURAL ENGINEERING

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Agricultural Engineering for the year 1922-1923:

This year has been the most successful in many respects in the history of the Department. This success is not measured in terms of a rapidly increasing enrollment but rather in the improvement of teaching methods and in the fine spirit of co-operation between teachers and students.

One of the most notable improvements in teaching method is the development of objective examinations, by which, not only the teacher, but the student himself is able to ascertain scholastic progress. These examinations save time for student and instructor, are far more accurate than previous methods used, and are eminently fair. Work of further improvement will be continued.

The work could have been further improved had our cramped quarters been enlarged. When it is remembered that the cramped quarters of last year were further reduced this year by the installation of the radio broadcasting station in the building assigned to us, without the relief promised, we consider our job well done and look forward to better quarters with anticipation of much improvement in laboratory methods. The Quarter Plan has worked to good advantage.

CHANGES IN PERSONNEL

Robert R. Thomson, Assistant Professor, resigned June 30, 1922. The place thus made vacant was filled by the appointment of Mr. C. O. Reed, an alumnus of the University of Illinois. Mr. Reed taught at Illinois a number of years and then went into commercial work in the farm machinery and tractor industry. Mr. Reed is considered to be an outstanding authority in the United States on the subject of field machinery. His viewpoint and his experience makes him an especially valuable man in the teaching field. We were fortunate indeed to be able to obtain his services.

CHANGES AND ADDITIONS IN CURRICULUM

The only changes in curriculum this year has been to increase Courses 603 and 605 to five-hour credit from three-hour credit courses. Three hours proved to be too short a time in which to do justice to the subject matter of these courses.

ADDITIONS TO EQUIPMENT

Professor McCuen designed a new belt power dynamometer with complete recording device that is the first thing of its kind. It allows a continuous record of time, speed, torque, and load change over a period of 10 hours. The machine was built by the Department and is now ready for use. This dynamometer will allow of a study of belt power requirements of threshing machines, ensilage cutters, etc., as well as their load characteristics, something that has never been before ascertained under typical field conditions.

RESEARCH

The design and improvement of the belt power dynamometer is the outstanding work of the year. The machine opens up a new field of research not before undertaken so far as we can learn. Studies will begin in the late

summer of 1923 on load characteristics of common belt-driven farm machines.

A study is being made of a corn harvesting and shocking machine which is as yet in the drawing stage.

A study of soy-bean harvesting is being undertaken with some progress reported. A successful method of threshing soy beans was developed last year in connection with the J. I. Case T. M. Co. Sweet clover threshing methods were also improved.

EXTENSION SERVICE

New projects in extension work are earth road building, field machinery adjustment, and use of labor-saving devices on the farm.

The soil-saving dam and erosion prevention by broad base terraces started last year, have been successful and are growing rapidly in favor in the counties affected. Considerable time has been devoted to fruit-storage cellars.

PUBLICATIONS

The most notable publication was the Extension Bulletin No. 8, Vol. XVII, "Braced Rafter Barn Framing," by H. P. Twitchell.

A number of bulletins were prepared by Virgil Overholt and W. P. Miller.

RECOMMENDATIONS

1. That provision be made in the curriculum of the College of Agriculture for a major course in Agricultural Engineering on the same terms under which Landscape Architecture and Applied Entomology operate.

2. That further provision be made for a professional degree of Agricultural Engineer after completion of approved work after the four-year course above is finished.

3. That the quarters vacated in the Old Horse Barn be remodeled without delay as laboratories and offices for this Department.

Respectfully submitted,

F. W. IVES, *Head of Department.*

REPORT OF THE DEPARTMENT OF ANIMAL HUSBANDRY—1922-1923

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Animal Husbandry for the year 1922-1923:

CHANGES AND ADDITIONS IN CURRICULUM

Course 607, Meats and Meat Products, was given this year in the Spring Quarter after having been omitted one year for lack of assistance and an effort to retail the products through a campus market was quite successful. It is now planned to schedule in this course a market period on Saturday morning when students may get experience in the retail trade and the meat be sold to better advantage.

CHANGES AND ADDITIONS IN EQUIPMENT

The five new barns have been occupied during the past year. A new feed mill and motor has been purchased to replace the old outfit worn out after 16 years of service.

LIVE STOCK AND ITS CARE

Our annual inventory, dated July first, and summarized by breeds, is as follows:

Class	Breed	No. Head
Horses—		
	Percheron.....	18
	Belgian.....	8
	Miscellaneous.....	5
Cattle—		
	Jersey.....	19
	Holstein-Friesian.....	35
	Guernsey.....	12
	Ayreshire.....	9
	Shorthorn.....	43
	Aberdeen Angus.....	24
	Hereford.....	17
	Grade and Crossbred.....	12
Sheep—		
	Shropshire.....	28
	Southdown.....	40
	Merino.....	17
	Grade and Crossbred.....	7
	Hampshire.....	8
	Cheviot.....	1
	Tailless.....	7
Swine—		
	Duroc Jersey.....	53
	Berkshire.....	19
	Yorkshire.....	42
	Poland China.....	88
	Hampshire.....	12
	Crossbred.....	8

This inventory shows the following grand total:

Class of Stock	Number Head
Horses.....	31
Cattle.....	171
Sheep.....	108
Swine.....	222
Grand Total.....	532

EXTENSION SERVICE

During the year the Animal Husbandry Extension Service has been put on the regional rather than the subject-matter basis, Mr. Wuichet covering all phases of the livestock work in the northern half of the state, Mr. Gerlaugh in the south. This plan would work better if it were not necessary to cover so much territory. The chief projects are still those in steer feeding, worm treatment for hogs and sheep, pure-bred sires campaign, and club work. The past two years' experience with the view herd has been so satisfactory that in addition to the mixed herd of breeding and fat cattle, which goes into 12 counties in southeastern Ohio as heretofore, a steer herd is to be taken into nine of the leading feeding counties in western Ohio.

PUBLICATIONS

There have been no publications by members of the staff except popular articles in the agricultural weeklies.

Respectfully submitted,

CARL W. GAY, *Head of Department.*

ANNUAL REPORT OF THE DEPARTMENT OF BOTANY

DEAN ALFRED VIVIAN:

DEAR SIR—Following is the annual report of the Department of Botany for the year ending June 30, 1923.

The only notable departures from the program of the previous year were adjustments in courses made necessary by the change to the Four-quarter Plan.

During the year Dr. W. G. Stover and Dr. Sampson were given the rank of Professor. Miss Lampe was made full-time assistant. The position of Extension Plant Pathologist was discontinued by the Extension Service.

Some further changes were made in the arrangement of the subject matter in General Botany as a result of experience in handling these classes. Further advances were made in the use of the problem method of teaching both in the laboratory and classroom. We were again unable to accommodate all the students who wished to register for these courses. The deficit amounted to more than 100 students. The courses in Plant Pathology were entirely revised and when we have an additional instructor in this Department we will be able to meet the demand for training in Plant Pathology. Attention may be called to the fact that the number of graduate students who took their major, or minor, work in the Department was very greatly increased over previous years.

ADDITIONS TO EQUIPMENT

The most notable additions to the equipment during the year were (1) the construction of a battery of constant temperature tanks in the greenhouse for the special use of the students of plant pathology, and (2) the purchase of 25 new microscopes, and of several precision eyepieces and objectives for research work.

RESEARCH

During the year data were secured on a greater number and variety of problems than ever before in the history of the Department.

The research activities include work on the following problems: "The vegetation of south central Ohio" (Transeau and Sampson); "The Vegetation at Transition Between Prairie and Plains" (Schaffner); "Length of Day and the Reversal of Sex in Hemp" (Schaffner); "Key to the North American Species of Equisetum" (Schaffner); "Ohio Species of Liverworts" (Schaffner and Taylor); "Control of Apple Scab" (W. G. Stover and Johnson); "Control of Apple Blotch" (W. G. Stover and May); "Seed Treatment of Oats for Smut Prevention" (W. G. Stover and Runnels); "Susceptibility of Tomato Varieties to Mosaic" (Hoffman); "Spread of Black Stem Rust from Barberry to Wheat" (Baringer); "Root Diseases of Clover" (Humphrey); "Root Rot and Seeding Blight of Corn" (Dobbins); "Longevity and Germination of Spores of Fungi" (Sampson and Stauffer); "Effects of Environment of Flax and Hemp Fibers" (Sampson and Anderson); "Fertilizer Effects on the Structural Development of the Wheat Plant" (Sampson and Meyer); "Effect of Environment on Cell Walls of Root Hairs" (Sampson and Durant); "Physiological Study of Growth and Reproduction Among Green Algae" (Tiffany); "Algal Food of Gizzard Shad" (Tiffany); "Static Diffusion of Gases Through

Perforated Septa" (Sayre); "The Opening and Closing of Stomata" (Sayre); "Anatomy of Grasses" (E. L. Stover); "Microchemical Tests for Substances in Pollen" (Lampe); "The Effects of Cultivation on the Roots of Vegetables" (Thompson); "Breaking Dormancy of Bulbs" (Moore); "Energy Budget of Plants" (Transeau); and "Ecological Distribution of Flax and Hemp" (Waller and Anderson).

EXTENSION SERVICE

The identification of plants, suggestions regarding control of weeds, identification of fungi and diagnosis of plant diseases have been the principal extension activities of the Department. Most of this work was done by W. G. Stover, Schaffner, and Transeau.

PUBLICATIONS

J. H. Schaffner—The Sexual Nature of Vegetative or Dichotomous Twins of *Arisaema*. *Ohio Journal of Science* 22: 149-154.

J. H. Schaffner—*Equisetales*, in *Flora of Santa Catalina Islands*, by Millspaugh and Nuttall, pp. 302-303.

J. H. Schaffner—Sex Reversal in the Japanese Hop. *Bull. Torrey Bot. Club* 50: 73-79.

J. H. Schaffner—North American Species of *Equisetum* (Part I). *American Fern Journal* 13: 33-40.

J. H. Schaffner—Additions to the Catalog of Ohio Vascular Plants. *Ohio Journal of Science* 23: 107-114.

J. H. Schaffner—*Manual of Trees* (Second Edition).

J. H. Schaffner—*Outlines for General Botany* (Fifth Edition).

L. H. Tiffany—Algal Statistics Gleaned from the Gizzard Shad. *Science* 76: 285-286.

L. H. Tiffany—What Is a Plant? *Science* 77: 359.

Stover and Baringer—Common Barberry and Black Stem Rust in Ohio. *Extension Bulletin*.

(IN PRESS)

E. N. Transeau—*Textbook of General Botany*. World Book Co.

J. H. Schaffner—Influence of Relative Length of Daylight on Sex in Hemp. *Ecology*.

J. H. Schaffner—Observations on the Sexual State of Various Plants. *Ohio Journal of Science*.

J. H. Schaffner—Time of Sex Determination in Plants. *Ohio Journal of Science*.

RECOMMENDATIONS

The growth of the Department during the past three years has made the present quarters quite inadequate for carrying on the class and laboratory work of the students. The work which suffers most because of the crowding is that of the graduate students. We hope, therefore, that within the next two years plans will be made to enlarge the Botany and Zoology Building to provide suitable facilities for the students of biology.

The increased number of graduate students calls for large additions to our equipment, especially chemical and physical apparatus for making precision measurements and observations of plant processes.

The greenhouse space is also inadequate for growing sufficient plants for departmental uses. If the University would complete the range of houses originally planned, together with the potting shed, our facilities would be greatly increased.

Respectfully submitted,

E. N. TRANSEAU.

REPORT OF THE DEPARTMENT OF DAIRYING 1922-1923

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following report of the Department of Dairying for the year 1922-1923:

In reviewing the college year just closed we are pleased to report that the entire Department has been kept unusually busy, and if we may be permitted to pass upon accomplishments at so close a range, the results seem reasonably effective. It is a pleasure to report the loyalty and support that every member of the Department has rendered during the year.

The work of the students as a whole has been of an extremely satisfactory character and we feel that during the year just closed, their work has been up to the standard which we all desire to see maintained at the Ohio State University.

CHANGES IN CURRICULUM

The inauguration of the Four-quarter Plan has necessitated a number of minor changes, especially with reference to the time at which the courses are offered. An effort has been made to arrange the curriculum so that it will be possible for our students to take the greater part of their work in the Autumn and Winter Quarters. This will give them an opportunity to work in dairy plants or on the farm, when the demand for men is greatest.

Dairying 602 is the only new course which has been scheduled during the year. This course consists of an automobile trip for the purpose of visiting the principal dairy farms of the state, making a study of their methods of feeding, breeding, herd management, and marketing; and some of the most important manufacturing plants. Upon the completion of the trip each student is required to write a paper giving full details of each visit, his individual impressions and the points of advantage and disadvantage as seen from his viewpoint.

This gives the student an opportunity to observe practical operations on the best dairy farms, to obtain a broader outlook, especially from the breeder's standpoint, and gain a wider knowledge of the industry as a whole.

A credit of five quarter-hours is given. Twenty-six men took the course the past year. It required approximately three weeks' time and the cost to each student was about \$50. Over 1500 miles were covered and 104 farms visited.

CHANGES IN EQUIPMENT

During the year a new motor-driven churn has been installed and a culture controller. The refrigerating room is being remodeled and a new brine tank installed. The can-washing room is being enlarged. This will assist materially in our laboratory and commercial work.

RESEARCH

The research work in Dairy Manufacturing has been mostly on Italian skimmilk cheese; grating cheese from milk testing 1.5% butterfat and making cheese from whey. Work has also been carried on to determine the PH number at which albumin coagulates most completely.

Feeding of Minerals. Special study and attention has been given to the value of minerals in the dairy ration. A combination of calcium phosphate, soda, sulphur, magnesium and iron, fed with wet feeds for a period of six months, gave much better results than when fed with dry feeds. The direct effect upon milk production was apparently negligible but the physical condition of the animal seemed to be improved, which resulted later in increased milk flow.

Lime fed on silage gives decidedly better results than when silage alone is fed and minerals such as milk lime, iron sulphate, wood ashes, or kelp meal are found to give the best results when fed in connection with red beets, saturated hay, or pasture grass.

Mr. C. F. Monroe, under the direction of this Department, has been carrying on experiments to determine the metabolism of calcium, magnesium, phosphorous, sulphur, and nitrogen in dairy cows, fed high and low protein rations.

Value of Hays. A study of the difference in value of ground and unground hays when fed to the dairy cow, shows that there is practically no difference when fed to the average cow, but when fed to the high-producing cow, the value of ground hay is far superior.

Point of Diminishing Returns. Data showing the relation of the cow to profits at the pail are being assembled. This takes into consideration the point of diminishing returns when dairy cows are fed for economical production. From the studies which we have made and the figures which we have been able to procure, it is possible at this time to make only a rough approximation because of the great number of factors involved; but apparently the greatest profit is from the highest-producing cows when fed and cared for so as to yield about 77% of their maximum.

An investigation to determine the influence of the testing of dairy cows upon the standard of milk production in future generations, is being carried on. Data collected at this time, are entirely inadequate to yield any conclusion but the work will be continued as more records become available.

Special study is being made of the influence of feed upon the nature, disposition, and general variable characteristics of the dairy cow.

Value of Corn Hearts. An experiment to determine the value of corn hearts in the test ration, was conducted on 12 cows for a period of 12 weeks. Results showed that for most cows the amount of milk was increased and the general condition of the cow improved.

EXTENSION SERVICE

Dairy Feeding Schools. Demands for dairy feeding schools have increased rapidly. Forty-three counties have conducted this work and from one to eight schools have been held in each county. Dairy men are taught to balance rations to fit the needs of their herds, to feed for economical production, and to feed for maximum production, which is one of the principal factors in determining the animals to be selected for breeding.

Dairy Calf Clubs. Dairy Calf Club work, which is carried on in connection with the Club Department, has made rapid growth the past year. Thirty counties took up either first-, second-, or third-year dairy calf club work and from one to four clubs were organized or reorganized in each county.

Miscellaneous Meetings. Members of the Department have helped with a number of farmers' institutes; attended general dairy meetings, and made a large number of visits to dairy farms for the purpose of assisting dairy-men with their individual problems. The extension project relative to Swiss cheese, has been continued in the factories in Tuscarawas and Holmes Counties.

Mr. McKellip has spent his entire time in extension work, while other members of the Department have devoted as much time to it as their University duties have permitted.

COW-TESTING WORK

There are at the present time 39 active cow-testing associations in the state, in which milk, butterfat, and feed records are kept on about 11,000 cows. The Barnesville association offers a splendid illustration of the value of this work. This association was organized in 1915 and that year the average production per cow was 5418 pounds of milk and 269.9 pounds of butterfat. This average production has gradually increased until in 1922, the average milk production was 7136 pounds of milk and 356.9 pounds of butterfat. In 1915, three-fourths of the cows in the association were grades, while at the present time nine-tenths of them are purebred.

OFFICIAL TESTING

At one time a pedigree of an animal showing that the ancestors were reputable so far as conformation and show-ring qualities were concerned, was all that was required when a dairy animal was to be selected. But today a further proof of value is demanded for the pedigree must contain names of animals that have shown their ability to transmit this characteristic. "Production and Reproduction" has become the motto of the dairy-cattle breeders.

The Advanced Registries and Register of Merit have been established for the purpose of securing authenticated and permanent production records, to which reference can be made in selecting animals for breeding purposes. Individual excellence is measured on the part of the cow by her ability in dairy production, and on the part of the bull by his potency in production of daughters of merit.

The breed associations keep all of the records and exercise a general supervision over the work. The Dairy Department of the State Agricultural College in each state has charge of the work in the state. Students supervise a very large percentage of the tests, which not only gives them employment but a wonderful opportunity to gain practical knowledge of dairy work which is possible in no other way.

During the past year we have sent out 147 different supervisors. Most of these men have given their entire time to the work but some of them, particularly students, have been employed only part of the time. A total of 3289 cows were tested during the year, the numbers tested in each breed being as follows:

Jerseys.....	961
Guernseys.....	825
Holsteins (2-day).....	571
Holsteins (7-day).....	887
Ayrshires.....	48
Shorthorns.....	33
Brown Swiss.....	10
Dutch Belted.....	4

One hundred and four retests were conducted in herds where unusually high records were being made. More Jerseys are tested in Ohio than in any other state. Of the nine class leaders for the breed, three are Ohio cows, one having a record of 1110 pounds of butterfat made during the past year. Another Ohio Jersey has just completed the first month of her yearly test, making 117 pounds of butterfat, which is the highest amount ever made by a Jersey cow in one month.

Ninety-eight Holstein-Friesian cows in Ohio have made records exceeding 1000 pounds of butter in a year. Until a few months ago Ohio has held the record over all other states in this respect and is now surpassed by only one state.

We take pleasure in stating that the number of Holstein cows on yearly test is rapidly increasing, while the short-time tests are gradually decreasing in number. This shows that the breeders are beginning to realize the greater value of the test covering a long period of time.

The number of purebred Guernseys in Ohio is comparatively small but that they are not lacking in quality is evidenced by the fact that they have won four places among the class leaders during the past year, in addition to making a large number of very excellent records.

PUBLICATIONS

A large number of short articles for dairy papers and magazines have been written by members of the Department and Mr. McKellip has written two bulletins for publication by the Department of Agricultural Extension—"Cow-testing Associations" and "Care of Cream on the Farm."

RECOMMENDATIONS

The greatest need of the Department is a building suited to its requirements. Lack of room and the proper facilities for teaching large classes are a decided handicap. The laboratories do not afford sufficient room for the present number of students and the office space is very limited.

There is need of a small truck for transporting milk, cream, and cans. This would be of great assistance and would eliminate delays which are now common.

The policy of the Department will be to serve the interests of the students and of agriculturists in general to the best of its ability, under any conditions.

Respectfully submitted,

O. ERF, *Head of the Department.*

REPORT OF THE DEPARTMENT OF FARM CROPS

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Farm Crops for the year 1922-1923:

TEACHING ACTIVITIES

During the year 342 students were enrolled, distributed as shown in the table.

At the end of the Spring Quarter the Master of Science degree was granted to Mr. Cutler and Mr. Meyers, assistants in the department.

The Quarter Plan is proving to be well adapted to the work of the department.

The experiment plots with their varied crops and projects are a valuable adjunct to the laboratory teaching and classes make frequent visits to them during the growing season.

RESEARCH

All members of the department are busy with the field experiments during the summer. The main projects are:

1. Breeding experiments with corn, wheat, oats, soy beans, and broom corn.
2. Study of corn and soy beans as companion crops.
3. Sweet clover and other forage crop studies.

In the corn-breeding project 350 strains are in the fourth generation of selfing. During the present season numerous crosses of these strains will be made. The hybrids secured will be grown next year in yield tests and used in the production of double-crossed seed according to the Connecticut method of corn breeding.

In the wheat breeding 400 strains of hybrid origin are being tested for yield, which are breeding pure for all visible characters. They are the selected few chosen from a large number, most of which were eliminated because of inferiority in vigor, quality of grain or other characters. This group of strains is a reservoir of potential new wheat varieties. To find the two or three best ones is the task of the rod-row test for yield and of the baking test for quality.

Three strains selected a few years ago are making excellent records in the variety test, both at Columbus and Wooster. New hybrids made for the purpose of combining disease resistance with yield and stiff straw are in the second generation.

In the oats breeding 200 selections from three varieties are being yield tested. Fulghum oats continues to be the best producer at Columbus and also on farms in many parts of the state.

Pure line selection of soy beans for yield is being continued, and one high yielding strain is being increased for distribution.

Study of mottling of the seed coat of yellow-seeded varieties, begun last year, is being continued and enough has been done to show that both genetic and physiological factors are involved. The problem is of interest to growers of soy beans for the seed trade.

Inheritance of seed coat colors in soy beans is being studied in a hybrid population.

Broom-corn breeding is being discontinued except for the increasing of a few good strains. A report of this work will appear in an early number of the *Journal of Heredity*.

The study of corn and soy beans grown as companion crops is now in the fifth year. Results indicate that under conditions of medium to low fertility the mixture yields more feed per acre than corn alone. Four years' results are summarized in the table.

CORN AND SOY BEANS AS COMPANION CROPS
FOUR YEAR AVERAGE, 1919-1922— OHIO STATE UNIVERSITY

	SILAGE Tons per acre		GRAIN Bushels per acre		Pounds digestible nutrients per acre Grain only
	Green weight	Dry weight	Corn	Soy beans	
Corn alone	8.17	3.71	53.3		2558
Corn plus soy beans....	11.33	4.42	47.2	8.9	2724.4
Soy beans alone.....	9.97	2.87		23.4	1206

The corn and soy beans grown together were drilled at the same time in 42-inch rows; corn, 15 inches, and beans, 4 to 5 inches apart in the row.

Comparative studies are being made of sweet clover, alfalfa, and other common clovers by making harvests of total plant growth at frequent intervals throughout the life of the plants.

EXTENSION

The main extension projects have been: 1, standardization of varieties of wheat and oats; 2, corn improvement; 3, soy-bean culture; 4, holding of agricultural exhibits.

The work in wheat standardization has brought noticeable results. Conservative estimates reveal that in the autumn of 1922 there were sown at least 200,000 acres of wheat in Ohio of the three pure-line varieties, Trumbull, Fulhio, and Gladden. This means increased yield per acre and a better quality of bread from the flour produced.

Thirty-two men completed the Ten-acre Corn Contest and seven of these produced 100 or more bushels per acre on the 10 acres. In the spring of 1923 corn variety demonstrations were started on 35 farms in nine counties where field meetings will be held and the varieties studied.

The Farm Bureaus of 48 counties now have the growing of soy beans as one of their projects. The emphasis is placed on using the soy-bean crop as a source of protein feed and on the use of suitable varieties and cultural practices.

During Farmers' Week the Department conducted a program of 10 lectures, assisted with the state grain show, and placed an educational exhibit in connection with the show. An exhibit was also placed at the State Fair.

In co-operation with the Department of Rural Economics a one-week course for elevator managers was given, May 21-26. The work given by the Department consisted of grain grading and seed testing. Twenty men attended.

PUBLICATIONS

Two research papers are in the hands of the printers and will appear soon. They are:

J. B. Park—Selection in Broom Corn—*Journal of Heredity*.

C. J. Willard—Effect of Caron Bisulfide on Viability of Certain Seeds—*Journal of Econ. Entomology*.

Respectfully submitted,

J. B. PARK, *Head of Department*.

REPORT OF THE DEPARTMENT OF HOME ECONOMICS—1922-1923

DEAN ALFRED VIVIAN:

DEAR SIR—The annual report of the Department of Home Economics for the year 1922-1923 is herewith respectfully submitted.

This year has been one of development in every phase of the work of this Department. The fact that there was only one change in the resident teaching staff made it possible to carry our plans forward without interruption. Miss McKay has come into the Department to succeed Miss Shelow. The foods and nutrition division has been placed under the chairmanship of Miss McKay, whose work is of special value in establishing definite standards. The work in textiles and clothing was strengthened and has been very successful under the able leadership of Mrs. Walker as chairman. The teacher-training division, under the direction of Mrs. Adams, has continued to do valuable work, both in resident teaching and supervision of the practice of students. Miss Findley has been in charge of the courses in institutional management and students who specialize in that work are receiving excellent training. The home economics extension service is making definite progress and its influence is felt throughout the state.

Members of the staff show an active interest in professional improvement. They avail themselves of every opportunity to study and to make educational trips. They have been much interested in a seminar in methods of teaching which has been carried on in the College of Agriculture, for its faculty, during the Winter and Spring Quarters. All members of the staff have had training in teaching methods as well as in the subject matter for which they are responsible.

Much time has been spent by the resident staff in advising students concerning their schedules and incidentally with their plans for training and future work. Since the adoption of the Four-quarter Plan the schedule cards for juniors and seniors are signed by advisers. The personal contact which this plan brings about is of mutual advantage, as many student problems are solved and the staff members are enabled to adapt their work more nearly to the needs of the students.

The demand for graduates from the course in Home Economics is much greater than the supply. Each year everyone available is employed very shortly after completing the course. Many calls come to the Department for workers in various phases of home economics and a large majority of graduates are placed in these positions.

The Home Economics Department has had a large share in each of several important events. The annual Farmers' Week, which has grown to such large proportions, included as usual a program for homemakers extending throughout the entire week and adapted in every way possible to the needs and interests of the rural home. In addition to providing this program, the Department maintained a nursery for children whose parents were attending the meetings and furnished lunches for 500 to 700 people each day. The cooperation of the students was in a large measure a factor in making Farmers' Week a success.

Boys' and Girls' Club Week is regarded by this Department as an important occasion. Members of both the resident teaching and extension staff

gave generously of their time in providing a valuable program for the club members and in addition entertained the girls at a reception.

This department co-operated again in the annual Educational Conference, called by the College of Education. Mrs. Adams acted as chairman of the Home Economics Section, which held a very interesting and profitable meeting on Friday afternoon. The State Home Economics Association scheduled one of its quarterly meetings in conjunction with this meeting.

The Home Economics Department was represented at the Ohio State Fair in an educational exhibit provided by the extension staff as a part of the Agricultural College exhibit.

The extra curricular duties of this department make a heavy demand upon the members of the staff, but the service is generously given. For example: The Columbus Council of Social Agencies asked for a series of lessons for the social workers of Columbus upon the budgeting of the incomes of families in their care and the apportioning of the money allowed for food. Mrs. Walker and Miss McKay gave a series of eight lessons and a number of Miss McKay's students co-operated in taking special problems in the nutrition of some of the dependent families. The piece of work done was of mutual benefit.

CHANGES AND ADDITIONS IN CURRICULUM

This year has been of special interest as the first in which the University has operated on the Four-quarter Plan. This Department has been pleased with the results and has felt that the change from the Semester Plan was made with as little inconvenience as possible. We feel that the plan is of advantage in that there is more flexibility of the schedule, that the students are enabled to do more intensive work in the fewer number of courses for which they are enrolled, and that they show improved scholarship.

One of the most significant changes in Home Economics work brought about by the Four-quarter Plan was the establishing of courses in the Summer Session. As it had not been customary for us to offer work in this Department during the summer we were uncertain as to what phases would be most interesting to our students and graduates. We chose the subjects of teacher training, school-lunch management, clothing and millinery, and found much interest in each subject.

A new course called Child Care was offered in the Spring Quarter of this year to seniors in Home Economics. This was a very satisfactory beginning in filling a long-felt need for training in child care. We are most grateful for the help of Dr. Baxter of the College of Medicine in planning the course and for the series of valuable lectures which he gave. It is sincerely hoped that within the near future it will be possible to provide suitable laboratory work for the course.

We have been much gratified in the opportunity to send a limited number of our students to the Merrill-Palmer School in Detroit, where a very unusual and interesting experiment in training in child care is being given. We sent three seniors and one graduate for the Winter Quarter, and two seniors for the Spring Quarter.

CHANGES AND ADDITIONS IN EQUIPMENT

There have been practically no changes nor addition is equipment worthy of mention, except the installation of a loom for the use of students in textiles.

RESEARCH

Members of the Department having full-time schedules have practically no time for research. One of our number, Miss Elsie Steiger, who has been doing graduate work in nutritional chemistry, has been carrying on experimental work in animal feeding, her problem being to determine the effect of added iodides on the calcium assimilation of the albino rat.

There have been 10 graduate students registered in the Department. One of them, Miss Marie Bumpas, received her master's degree in June with a major in education.

A number of interesting special problems have been studied by seniors. The subjects are listed as follows:

The selling of textile merchandise.

Plans for furnishing a home.

Child care and management.

Experimental animal feeding to test a special product.

A nutrition class for children.

A family food budget.

A quantity food budget.

Several students had the problem of nutrition in dependent families assigned to them by the Jewish Welfare and Family Service Societies.

VOCATIONAL EDUCATION IN HOME ECONOMICS

Mrs. Adams has continued to be in charge of vocational education in Home Economics in connection with her general work in training teachers of Home Economics. She is assisted by Miss Henrietta Gromme and a corps of four critic teachers, all of whom are paid from vocational funds. As director of vocational teacher improvement, Miss Gromme has spent two-thirds of her time visiting teachers in the field and one-third in teacher-training work at the University.

In preparing the students for teaching vocational home economics the project method is taught and special emphasis is placed on the use of the home project. The problems of evening and part-time classes in vocational education are considered, but the major part of the special-methods work is devoted to the all-day school. Students who are qualifying for vocational home-economics teaching have an opportunity to practice in three vocational practice schools—one of which is in Columbus, one in Reynoldsburg, and one in Canal Winchester.

One of the most important factors in making effective the vocational education in Home Economics throughout the state is the supervision which is given from the state office and the work of the director of teacher improvement who goes out from this Department. She visits teachers in the day schools, observes their teaching, school-lunch work, and other activities, discusses courses of studies, methods of supervising home projects, home visiting, and community work and gives assistance to the teachers in every possible way. She has met vocational teachers in six regional conferences held during the year. A state-wide conference for vocational teachers was held in August. At that time plans were laid for the year and the revised course of study was presented.

HOME-ECONOMICS EXTENSION SERVICE

Gratifying progress has been made in the Home-economics Extension Service under the guidance of the state leader of home-demonstration work, Miss Marie Sayles.

The staff in the state office has remained the same as last year, with the addition of an assistant state leader. There have been just 10 counties with home-demonstration agents, but nine other counties have been making plans to obtain appropriations for home-demonstration work.

Definite projects are being carried on by the Home-economics Extension Staff in clothing, health, home management, and nutrition. The work is organized on a basis whereby its effectiveness is multiplied many fold through the training of local leaders who are finally responsible for its successful completion. Prospective leaders are trained in subject matter and organization by specialists of the extension staff, and the leaders themselves set a definite goal as to the percentage of women in their townships who should in turn receive training from them. By following up each piece of work and by securing definite reports of what has been accomplished it is possible to measure in some degree the success of the extension service.

Following is a statement concerning the number of counties in which each project was carried on:

Adult nutrition in 29 counties.

Junior nutrition in 76 counties.

Adult clothing in 31 counties.

Junior clothing in 61 counties.

Health in 18 counties.

Home management in 33 counties.

Dress forms in 86 counties.

The resident staff is called upon from time to time to assist in the selection and preparation of bulletins and other material to be used in the field, and to contribute to various extension programs.

A full report of the work of the Home-economics Extension Service may be found in the report of the Extension Director.

RECOMMENDATIONS

It is sincerely hoped that the Department will have greater facility for promoting research along various lines, and for offering graduate courses.

As stated previously in this report, there is a very great need for the child care course to be developed with satisfactory instruction in child management and a suitable laboratory.

The department wishes to express appreciation of the courtesy and helpfulness of the President, and the Dean, and the co-operation of our colleagues.

Respectfully submitted,

FAITH R. LANMAN.

REPORT OF THE DEPARTMENT OF HORTICULTURE

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Horticulture for the year 1922-1923:

The work of the Department for the season has been brought to a fairly satisfactory conclusion in spite of rather severe handicaps.

All members of our force have been on hand throughout the year, and we feel that each one has been unusually faithful in his work. Mr. Elwood leaves us this year to become full professor in charge of Landscape Architecture at Iowa State College, and at a salary of \$4500.

A total of 876 students were enrolled in the courses of the Department during the year. There was a total of 19 graduates from all of the sections.

While our enrollment is not yet up to pre-war conditions, it is increasing, and several of our classes are already larger than we care to handle in one section.

CHANGES AND ADDITIONS IN CURRICULUM

No changes have been made in our courses of study during the year, but several important additions have been presented for adoption, for the year of 1924-1925.

CHANGES AND ADDITIONS IN EQUIPMENT

The principal additions in our equipment have been in the way of laboratory material for Mr. Montgomery's work in fermentation and the re-insulating of one of the cold-storage rooms. We are in need of a small motor truck, a much larger spray laboratory, and enlarged greenhouse space.

RESEARCH

Lack of time, as usual, prevents the accomplishment of a great deal in the way of research. Mr. Charles succeeded in carrying through his problem dealing with the effects of maturing of different kinds of cover crops on the setting of fruit buds of the apple. Mr. Montgomery's time was largely consumed in teaching and getting his material ready for work during the coming summer. He now finds, however, that while he has his equipment and a certain amount of time at his disposal he has no room in which to carry on his work. Because of the limited time at my disposal, I have become interested in the literature of Horticulture, and have decided to do what I can in the way of research along this line. I am collecting material on the history of the different phases of pomological operations, with the idea of combining them in book form at some future date. Some of the problems that we are interested in are given below:

- The Effects of Varying Amounts of Soil Water on Fruit-bud Formation.
- A Study of Secondary Blooming of Pome Fruit Trees.
- Do Varieties Run Out by Means of Asexual Propagation?
- Methods of Retarding the Blooming Period of Fruit Trees.
- The Effects of Light on Fruit-bud Formation.
- The Rooting of Apple-tree Cuttings.
- Monograph Studies of Iris.
- Monograph Studies of Gladiolus.

Influence of Color in Flowers by Soil Treatment.
Propagation of Perennial Flowers.
Strain Tests With Vegetables.

EXTENSION SERVICE

The personnel of our Extension Service is the same as last year. Mr. Cruickshank and Mr. Beach in Pomology, and Mr. Glines in Vegetable Gardening. In addition to these men, both Mr. Hottes and Mr. Scherer give a good deal of their time to this kind of work. In my last report I mentioned the fact that additional experts were needed. The demand for this addition to our force is no less acute. We need a specialist in Landscape Architecture, a potato expert, an expert in vegetable growing under glass, as well as one in truck gardening.

The projects now under way are as follows:

- Pruning demonstrations.
- Spraying.
- Pruning schools.
- Grading and packing demonstrations.
- Development of young orchards.
- Apple-blotch control.
- Apple-scab control.
- Grape berry worm control.
- Improvement of vineyard soils.
- Fertilization of apple orchards.
- Fertilization of peach orchards.
- Landscape improvement of farm houses, rural schools, rural churches, rural cemeteries, public buildings, and roads.
- Orchard inspection.
- Garden inspection.
- Farmers' institutes.
- Judging fair exhibits.
- Judging garden contests.
- Inspection of individual orchards, gardens, greenhouses, etc.
- Writing bulletins and articles for the press.
- Control of tomato blight.
- Fertilization of tomatoes.
- Distance of planting tomatoes.
- Development of wilt resistant strains of tomatoes.
- Improvement of sweet corn by selection.
- Production of disease resistant strains of sweet corn.
- Introduction of yellows resistant strains of cabbage.
- Improvement of cabbage by selection.
- Comparison of yields of certified, northern-grown potato.
- Seed with home-grown seed.
- Spraying potatoes.
- Hill selection of potatoes.
- Grading potatoes.
- Storage of potatoes.
- Organizing Fruit Growers' and Selling Associations.

Correspondence and personal telephone calls in connection with the carrying out of this program as well as answering the many calls for individual help consume an immense amount of time. In addition to the above practically every member of our force is either president or secretary of a state or national association and several have offices in two of these organizations. Mr. Cruickshank, in addition, has the editing of the annual reports for the American Pomological Society and for the State Horticultural Society.

PUBLICATIONS

W. Paddock—Am finishing a booklet of 20,000 words on Small Fruit Production for the Life Planning Institute. Have also been at work on a book dealing with the Literature of Horticulture.

Mr. Elwood, Mr. Hottes, and Mr. Taylor have all published more or less throughout the year.

STUDENT ACTIVITIES

As stated in previous reports, student activities are matters of considerable concern in this department. We have a strong Horticultural Society, which supports and presents the Chrysanthemum Show and the Apple Show, and also furnishes a team of three men each year to compete in the Interstate Apple Judging Contest. This organization also always takes part in the campus functions, such as Ag. Open Night, Farmers' Week Stunt Night, etc. We continue to receive a number of calls throughout the year for information in regard to the best ways of promoting such activities.

RECOMMENDATIONS

The principal thing that I wish to stress in the way of recommendations is the employment of a number of student assistants to relieve our instructors of some of the tedium of instruction, such as is common to all laboratory work, the grading of many papers, etc.

Respectfully submitted,

W. PADDOCK.

REPORT OF THE PLANT INSTITUTE

DEAN ALFRED VIVIAN:

DEAR SIR—The following report of the work of the Plant Institute of the Ohio State University for the year ending June 30, 1923, is respectfully submitted:

The meetings of the seminary were held every two weeks. The attendance at these meetings averaged about 30.

Under the auspices of the Plant Institute, Professor R. A. Emerson of Cornell University addressed the local chapter of Sigma Xi on genetics, and with the aid of the Graduate Council, Dr. E. W. Whitford, Professor of Tropical Forestry at Yale University, was secured for a series of four lectures on the Agriculture and Forestry of the Tropics.

The present members of the executive committee are: A. E. Waller, C. L. Thrash, C. J. Willard, W. Paddock, J. F. Lyman, H. C. Sampson, chairman.

Very truly yours,

T. G. PHILLIPS, *Secretary of the Plant Institute.*

REPORT OF THE DEPARTMENT OF POULTRY HUSBANDRY

DEAN ALFRED VIVIAN, *College of Agriculture*:

DEAR SIR—I respectfully submit the following annual report of the Department of Poultry Husbandry for the year 1922-1923.

Professor Jacoby resigned his position as Professor in charge of the Poultry Department effective July 1, 1923. Professor E. L. Dakan who has held the position of Assistant Professor in charge of the Poultry Extension Service has been appointed head of the Department effective July 1, 1923. A successor to Mr. Dakan has not been appointed yet.

CHANGES AND ADDITIONS IN CURRICULUM

The change from the Semester Plan to the Four-quarter Plan necessitated certain changes in the courses of study. The same ground is covered in the new courses as was covered by the old. In addition a course for freshman and sophomore students with 2½ credit hours covering the subject of Farm Poultry was required of all students entering in 1922. This course insures every Agricultural student getting some knowledge of Poultry Husbandry for graduation.

POULTRY AND ITS CARE

Statistical reports show poultry and eggs to be one of the largest contributing factors to the average farm income and to the agricultural income of the state. Poultry is generally not given as much attention as are the other farm enterprises. There is a vast room for improvement along all lines, and in so doing increase the value of the industry to the average family and to the state as a whole.

General observations show clearly the need of education along the fundamental lines of feeding, housing, etc. The Extension projects showed clearly also the need for further work along the lines of better breeding and better stock; more efficient management and the like. The need was for some method whereby a majority of the people could be reached with information that would correct some of these outstanding deficiencies.

It was with this idea in mind that the Extension projects were organized. The Demonstration Farms acted as hubs from which the information was spread. For those needing such fundamentals as better feeding, housing, etc., special projects were carried out to accomplish this purpose. For those further along the need was for better breeding and management, and the Demonstration Farms served this purpose.

As a result of this type of work the efficiency with which the farm flocks were being cared for has been notably improved.

RESEARCH

The projects in Poultry Breeding that were started several years ago have been continued with marked success during the past year. The flock average at the poultry plant has been raised from 10 to 15 eggs per hen during the past 12 months. This is the direct result of careful pedigree breeding.

EXTENSION SERVICE

The greatest need of the farm poultry raisers of Ohio is a definite, practical procedure or method to be followed in managing their poultry flocks. This applies to every phase of poultry production—breeding, housing, feeding, rearing the chicks, disease, control, and marketing. There are so many superstitions and traditional practices that handicap the poultry raiser and cause a loss of efficiency and reduce profits that the poultry specialists find it not only necessary to demonstrate practical and profitable methods but to show that methods in use at the present time are not profitable or are less profitable than the methods recommended. It was with this idea in mind that the Poultry Demonstration Farm Project was started several years ago and has been developed to its present size with over a thousand co-operators.

The object of this project is not merely to develop demonstration farms but to change the poultry practices of the community. This can be done only by dividing the methods employed by the demonstration farms into separate phases and encouraging their adoption by a large number of people in the community.

The present plan is to extend this project into every township or community in Ohio; to develop leaders of these co-operators, or to make Demonstration Farms of leaders not now in the project. In cases where the Demonstration Farm owners prove to be inactive as leaders, other co-operators who will carry on the work shall be chosen. This adjustment will take time but the specialists feel that a leader is not entitled to that name unless he or she, as the case may be, is also a good poultry raiser. We believe firmly that poultry leadership embodies first, good poultry methods by the leader, and second, a community spirit or understanding of what extension work means. A combination of these two factors is not hard to find for we have already found hundreds to develop these factors in any and all co-operators, and that is one object in view and one goal that has been set.

These sub-projects, a part of the major project, may be listed as follows:

1. Chick raising and pullet production.
2. Poultry-house construction.
3. Marketing of poultry and eggs.
4. Feeding for egg production.
5. Breeding, certification.

1. Chick Raising

The first of these sub-projects is now under way. Specialists have met the poultry leaders in practically every county and gone over with them in detail the specific methods to be employed in chick raising and managing the growing pullets. These leaders or co-operators will follow as closely as possible the method recommended, and will report at the end of the season their success. It is planned to have a tour during the summer and fall in each county when as many of these co-operators as possible will be visited.

During the summer of 1924 the plan is to have each of this year's co-operators act as leaders at this project in their community, and secure three to five co-operators. This year, 1923, is in fact to be spent in training leaders. In 1924 the chick-raising project should be carried out by 25 to 40 co-operators in each county.

Records are kept by all co-operators giving information that will make it possible to check up on the results and accomplishments.

2. *Poultry-house Construction*

The specialists have always and on all occasions possible, encouraged better housing of poultry. It is planned to have 10 to 15 poultry housing "bees" during the summer of 1923; only one such "bee" has been held, but it was so successful that others will be held as opportunity arises.

3. *Marketing*

The plan for this sub-project is to furnish reliable information in care and management of poultry and eggs for market. To recommend reliable markets and influence production to adjust itself to market demands. We have helped all of our co-operators and many others in their marketing problem, and our aim is to have every person who produces quality eggs and poultry sell it on a market where quality brings a premium. This is an easy task for those who produce a case of eggs a week or have a crate of live poultry to ship. The small producer is hard to reach because no co-operative marketing agencies are available and old-time buyers will not buy on grade. It is hoped that within another year some solution of the marketing problem will be presented and that Ohio will have a marketing program for the millions of dollars' worth of eggs and poultry produced yearly.

The poultry specialists plan to spend considerable time teaching and demonstrating grades and methods of packing. These demonstrations require only a short time and will be made a part of the program in the counties visited. In this way we will train our leaders and have a nucleus to start with when a marketing program is ready to be started.

4. *Feeding for Egg Production*

This is a year round project and is a part of every poultry conference or demonstration conducted by the specialists. During the fall and winter months we plan to devote practically all of our time to this subject. The poultry leaders will conduct meetings in their townships where feeding will be discussed and the recommendations of the specialists reviewed. Mimeographed copies of the proceedings and of recommendations made at the county meetings will be distributed at these township meetings.

5. *Poultry Certification*

This is a breeding project and the plan is to extend it as fast as is advisable and be safe from overambition. A copy attached gives details of the methods of procedure. We feel that this project will stand or fall upon the confidence that it creates in the farmers who purchase certified products. Since confidence is so easily destroyed we plan to hold back the project until we are absolutely sure each new co-operator is suited to carry on the project.

PUBLICATIONS

E. L. Dakan and G. S. Vickers—Extension Bulletin Vol. 18, No. 2. "The Ohio Multiple Unit Poultry House."

G. S. Vickers—Extension Bulletin Vol. 18, No. 8. "How to Raise the Chicks."

REPRINTS

E. L. Dakan—Extension Bulletin Vol. 15, No. 13. "Culling the Poultry Flock"; Extension Bulletin Vol. 17, No. 9, "Summer Management of the Laying Flock."

E. L. Dakan, G. S. Vickers—Extension Bulletin Vol. 17, No. 5. "The Ohio Colony Brooder House."

E. L. Dakan, G. S. Vickers, D. C. Kennard—Extension Bulletin Vol. 16, No. 8. "Summer Care of Pullets for Winter Egg Production."

RECOMMENDATIONS AND POLICIES

1. The Poultry Department cannot develop until the plant has been moved to its permanent location. This should be done at once in order to carry on proper teaching in farm practice courses.

2. A full-time stenographer should be granted to the Department. Many farmers visit the office and unless a clerk is in the office such visitors cannot get the information they desire. The correspondence of the Poultry Department has increased to such an extent that it is now larger than any other Department in the Agricultural College. This correspondence should be taken care of promptly, and this can only be done with proper stenographic assistance.

3. Some investigational work in marketing eggs and poultry should be started at once. This should be in co-operation with the Ohio Farm Bureau Federation and since their organization for marketing poultry and eggs is just being developed the man involved would be a very valuable factor in this development. It is recommended that the successor to Mr. Dakan be especially qualified in marketing practices.

Respectfully submitted,

F. S. JACOBY.

REPORT OF THE DEPARTMENT OF RURAL ECONOMICS

DEAN ALFRED VIVIAN:

DEAR SIR—I respectfully submit the following annual report of the Department of Rural Economics for the year 1922-1923:

An effort was made to introduce the problem or case method which has gained so much favor in the Harvard School of Business Research into the course in Co-operation, Rural Economics 603. The class was divided into six groups each to be responsible for the organization of a co-operative marketing association in one of the following commodities: grain, livestock, milk, tobacco, wool, and fruit. Each group was given one class period in which to hold a meeting of the organization, the remaining students acting as members. At this meeting the most pressing problems which the actual organizations in Ohio are facing were brought before the meeting and discussed.

This method made it highly desirable that the members of the class should have first-hand knowledge of the problems that are coming up from day to day in the field. In order to supply this information specialists from the Agricultural Extension Service of this institution and from the staff of the Ohio Farm Bureau Federation were called upon and they responded very generously. For assistance of this nature the Department is especially indebted to Mr. J. Sherman Porter, Lexington, Kentucky, Publicity Director of the Burley Tobacco Growers' Co-operative Association; J. F. Walker, Secretary, Ohio Sheep and Wool Growers' Association; A. E. Anderson of the Grain Department; A. F. Potter and F. G. Ketner of the Livestock Department, and Henry S. Ballard, Legal Counsel of the Ohio Farm Bureau Federation; Professor C. S. Plumb of the Animal Husbandry Department, B. A. Wallace and Frank Beach, extension specialists. All these men appeared before the class and gave liberally of their time in assisting the groups outside of the class hour.

CHANGES AND ADDITIONS IN CURRICULUM

Course 605, a three-hour course called The Agricultural Industry was added and taught in the Winter Quarter by Mr. Falconer. It considers agriculture as a national industry and the problems peculiar to it as such.

RESEARCH

STUDY OF ENGLISH LAND PROBLEMS

Department head, J. I. Falconer, went to England in April for a six months' leave of absence. He is engaged while there in a study of the English land problem since 1900. He is associated with the Agricultural Department of the English government.

FARM COST ACCOUNTS

The complete cost accounting project has been continued with good success. There are still 19 men in the Medina County route and 20 in Greene County. Semiannual meetings are held in each county with the co-operators, at which times individual statements as to profits, losses, and costs are returned to the men. At the same time they are given an opportunity to compare their business operations, etc., with the other farmers. There has been an increasing demand for the results of this work, coming from county agricultural agents

and others in extension lines. It has been of great value as teaching material in farm management. It also provides a wealth of material for the extension workers of the department.

SURVEY OF TRACTOR FARMS

The fifth year's records on these 100 farms were obtained by a personal visit in March and April, 1923. The records for the five years have been summarized. Valuable data relating to the influence of the tractor on the organization of the farm business, as well as figures on the cost of tractor operation, are available.

ANALYSIS OF OHIO AGRICULTURE

Considerable time was devoted last summer to a statistical analysis of the agriculture of the state by counties. Results were furnished in mimeographed form to all extension workers.

WHAT THE FARM CONTRIBUTES TOWARD THE FAMILY LIVING

A survey of 28 farms in Scioto County revealed the quantity of farm products consumed by the family. These were translated into their value at the farm, and the city value of the same products determined in Portsmouth. The result was a determination of the city wage equivalent of the farm contribution to the family living.

LABOR REQUIRED FOR CROP PRODUCTION IN OHIO

Analysis of survey material collected in 1921 from 324 farms in Perry, Trumbull, Seneca, and Mercer counties yielded valuable results relative to (1) the common practices in use in doing farm work in the various sections of the state, (2) the per acre requirement of man labor in the production of corn and wheat, and (3) the normal accomplishment of tools of different sizes. The results have been published in a 16-page extension bulletin.

RURAL SOCIAL AGENCIES IN OHIO

The study started last year by Mr. Lively on Rural Social Agencies in Ohio was completed and published in February as a 48-page extension bulletin. It has been distributed to all extension workers in Ohio and to all teachers of Rural Sociology in the United States.

RURAL POPULATION

A statistical study of changes in the rural population since 1910 was made in the Fall Quarter by Mr. Lively. The results are being prepared for publication.

SURVEY OF RICHLAND COUNTY

In response to the request of local agencies, a social survey of Richland County was begun in the Winter Quarter. The work is being done under the co-operative arrangement of state and county agencies. Mr. Lively is general director with Dr. Walter Brown, who is director of the Richland County Child Health Demonstration, as chairman of the county organization. Social and economic conditions and organizations are being studied with a view to developing a plan and program or organization for the county.

RURAL LEADERSHIP

Under the direction of Mr. Lively, Mr. Halley, an advanced student has been making a statistical study of rural leadership in the United States with

reference to certain environmental factors. The study should be completed by fall.

SPECIAL ORGANIZATION IN RELATION TO TYPES OF AGRICULTURE

Material gathered by Mr. Lively in Minnesota and Wisconsin relative to the relation of community social organization to the type of agriculture practiced is being compiled and analyzed.

EXTENSION SERVICE

Mr. Taber, Mr. Arnold, and Mr. Wallace have given their full time to extension work. A full report of their activities for the year has been submitted to the Director of Extension. In addition to this the members of the teaching staff have given a number of addresses and have co-operated to conduct several special schools and conferences.

FARMERS' WEEK ACTIVITIES

Country Life Section. The program of this section under the direction of Mr. Lively ran three days and was well attended.

Agricultural Forum. The Department was instrumental in securing Dr. T. N. Carver of Harvard University to conduct an agricultural forum for three days. It was especially well attended.

School of Methods for Grange Lecturers. In co-operation with the Ohio State Grange a joint school was organized for the purpose of increasing the scope and effectiveness of the Grange Lecturer. The school was conducted two hours each day for three days and was attended by approximately 100 lecturers. The proceedings were published and circulated to all grange lecturers in Ohio, to all state granges, to all deans of colleges of agriculture and directors of extension, and to all teachers of Rural Sociology.

SUMMER SCHOOL FOR RURAL PASTORS

The Second Annual Summer School for Town and Country Pastors was held July 10-21, 1922. It was attended by 58 ministers. The committee in charge voted to broaden and enrich the curriculum of the school for the following year.

PUBLICATIONS

J. I. Falconer.—Several articles in farm papers. Itemized list not available due to Mr. Falconer's absence.

R. F. Taber—"The Labor Required for Crop Production in Ohio." (jointly with Mr. Arnold). Extension Bulletin, Vol. XVIII, No. 5, 1922-1923. Book Review—Journal Farm Economics, October, 1922. Numerous articles in farm papers.

C. E. Lively—"Some Rural Social Agencies in Ohio, Their Nature and Extent." Extension Bulletin, Vol. XVIII, No. 4, 1922-1923. "The Rural Physician in Ohio," Journal of the American Medical Association, Vol. 79, pp 1541-2 (October 28, 1922). "Laboratory and Field Work in Rural Sociology," Proceedings American Sociological Society, 1922. "Farm, Home, and Community Discussion Topics," in Proceedings of the School of Methods for Grange Lecturers, 1922. Book Review, Journal Farm Economics, October, 1922.

C. R. Arnold—(See R. F. Taber). A number of articles to farm papers.

B. A. Wallace—"A Filing System for Cream Stations," Extension leaflet. "An Accounting System for Cream Stations," Published by Farm Bureau. "Livestock Marketing in 1922." Extension Bulletin at printers.

F. L. Morison—A three-lesson correspondence course in farm accounts.

Members of the department have contributed approximately 30 articles to leading farm papers. Fifty-one items have been contributed to the Extension News Service.

RECOMMENDATIONS

Perhaps the most acute need of the department is that of adequate housing space. Four teachers, three extension workers, two tabulators, two stenographers, and one or more student workers cannot be housed in two medium-sized offices with anything like efficiency. Such crowding makes not only for loss of time but necessitates the placing of desks in dark corners where the physical welfare of the worker is placed in jeopardy.

The classes in accounting continue to meet wherever possible, a scheduled room where accounting desks can be used not being available. Good work is difficult under such conditions.

Space for a reading table on which can be placed trade papers for the courses in Marketing and Co-operation is very badly needed. This is material of a nature that cannot be handled satisfactorily through the general library. Duplicates of important bulletins and material from co-operative associations should also be made available to students on such a table.

Additional funds are badly needed to promote investigative work in marketing and rural social problems. There is great demand for more accurate information in the fields.

Respectfully submitted,

J. I. FALCONER,
Per C. E. LIVELY.

REPORT OF THE DEPARTMENT OF SOILS

DEAN ALFRED VIVIAN:

DEAR SIR—The Department of Soils submits the following report for the year 1922-1923:

The number of students registered for courses in this Department during the year has been considerably reduced by reason of schedule difficulties which occurred as a result of changing from the semester to the quarter plan. For example, 165 students were registered in the required course in Soils in 1921-1922 as compared to 46 in 1922-1923. There was also a reduction in the number of students in the other courses offered by the Department for which the elementary course is a prerequisite.

During the year a total of 158 students were enrolled in the courses of the Department. Mr. T. C. McIlvaine of the University of West Virginia was in residence for a part of the year taking work leading to the Ph.D. degree majoring in Soils. The National Limestone Association has agreed to finance for a period of five years a research fellowship which has for its purpose a study of the efficiency of limestone for acid soil purposes as related to its fineness. This fellowship was awarded for a period of 15 months to L. B. Broughton, Professor of Industrial Chemistry of the University of Maryland, who began the work on June 1 and registered in the Graduate School with the beginning of the Summer Quarter for work leading to the Ph.D. degree.

CHANGES AND ADDITIONS IN CURRICULUM

It seems desirable to continue the present offerings for several years without change in order to have opportunity to determine how nearly they seem to meet the requirements of students.

CHANGES AND ADDITIONS IN EQUIPMENT

The most important articles of equipment secured during the year were those required to complete the set of apparatus used in the determination of the H-ion concentration of soil solutions.

RESEARCH

The field projects outlined in previous reports are being continued. These now include 280 one-twentieth acre plots on which are being grown a variety of farm and garden crops. The various fertilizer treatments are being studied both as to their effects on crop yields and on the composition and crop-producing qualities of the soil. The major problem, which is under investigation, is that of "Nitrogen Economy" as influenced by the soil treatments. Samples of soil and of the crops produced are being collected with the hope that the services of Mr. McClure may be available during one quarter of next year for laboratory study of this problem.

An example of the type of field investigation being employed is given in the following table which also gives a record of the yields of corn produced in three of the fertilizer test series for the period of three years since the experiments were initiated.

Effects of Additional Increments of Fertilizer Salts on Corn Yields

Sulfate of Ammonia*		Acid Phosphate*		Muriate of Potash*	
Application Lbs. per A.	Increase Bu. per A.	Application Lbs. per A.	Increase Bu. per A.	Application Lbs. per A.	Increase Bu. per A.
25	0.2	75	3.6	12½	-0.2
50	3.1	150	-0.6	25	2.8
75	0.8	200	-1.9	50	2.3
100	3.5	300	0.3	75	2.2
200	6.2	600	-4.5	100	5.2
400	4.8	1200	-4.7	200	1.9
Check Yields	71.8	Check Yields	72.5	Check Yields	74.7

* Other fertilizer salts supplied in favorable amounts the only variable from plot to plot in any series being the quantity of the fertilizer salt under test in that series.

Mr. Conrey is continuing his study of the soils of Ohio in connection with the Soil Survey of the Ohio Experiment Station. Mr. McClure and Mr. Thrash are each working on research projects to satisfy the thesis requirements for Ph.D. degrees in Chemistry and Soils, respectively.

Mr. Conrey attended a meeting of the Soil Survey workers at Urbana, Illinois, where he discussed the laboratory phase of the survey. Mr. Salter attended a meeting of research workers at Knoxville, Tennessee, and took part in the discussion of the problem of soil acidity. Mr. Bear was in charge of a symposium on phosphorus presented at the annual meeting of the American Society of Agronomy in Washington. Mr. Bear served as a representative of the American Society of Agronomy at a meeting called by the National Research Council at Washington to consider the proposed federation of biological societies.

EXTENSION

Mr. Salter in co-operation with Messrs. Barnes, Jones, Morgan, and Reed have been actively engaged in the extension program of the Department. A detailed report of their activities has been presented to the director of extension. During the year considerable attention was given to the matter of standardization of fertilizer analyses. In connection with this problem Mr. Bear attended a conference of agronomists and fertilizer manufacturers and salesmen at Chicago. This was followed later by a one-week school for fertilizer salesmen given by members of the Department which was held in the Ohio Union and which was attended by nearly 200 fertilizer men. Mr. Bear also attended a meeting at White Sulphur Springs, West Virginia, to address the Convention of the National Fertilizer Association as a part of this program of standardization. The usual 12 issues of *Timely Soil Topics* were published. A considerable variety of other work was done by the teaching staff of the Department as a part of the extension program.

PUBLICATIONS

Mr. Salter published the first of a series of papers on "Factors Affecting Soil Reaction I. The Soil Water Ratio," which appeared in the *Journal of Physical Chemistry*, Vol. 27, p. 117-140, 1923. Mr. Morgan and Mr. Salter published an article on "Solubility of Limestone as Related to Their Physical Properties," in *Soil Science*, Vol. XV, p. 293-307, 1923. Mr. Haley's Ph.D. dissertation from this department on "Availability of Potassium in Orthoclase for Plant Nutrition," was published in *Soil Science*, Vol. XV, p. 167-180, 1923. Mr. Bear has completed the manuscript for a book on *Soil Management*, which

has been accepted for publication as one of the Agricultural Series of John Wiley and Sons Company.

In addition the following papers have been prepared by Mr. Bear as a part of the work of the Department: "The Teaching of Soils," Jour. Amer. Soc. Agron., Vol. 14, p. 307-311. "The Soil the Farmers Social Trust," and "The Value and Function of Fertilizer Sales Service," in the American Fertilizer for August and October, 1922. "What Fertilizers for Ohio Wheat?" "Outlook for Fertilizer Industry," "What Fertilizer Shall I Use?" in Ohio Farmer of August 12, September 2, and January 27 issues, 1922-1923, respectively; "Ohio's Standard Dozen Fertilizers," and "Fertilizers for Wheat," in National Stockman and Farmer for August 11 and November 12, respectively.

Respectfully submitted,

FIRMAN E. BEAR.

REPORT OF THE DEPARTMENT OF ZOOLOGY AND ENTOMOLOGY

DEAN ALFRED VIVIAN:

DEAR SIR—The following report of the Department of Zoology and Entomology for the year 1922-1923 is herewith submitted:

The only change of importance in our work has been that of readjusting it to the Four-quarter Plan. We have had no difficulty in doing this and the general results appear to have been very satisfactory. It has, at times, made the work considerably more concentrated for members of the teaching staff, but this can probably be remedied in the future as the result of experience. I have discussed the plan with many of our students, beginners as well as advanced, and find that they are generally favorable to the change. The arrangement of courses was given much careful study before the change was initiated and we have found but little readjustment to make in the future.

Owing to the increase in the amount of laboratory work it has been necessary to limit the number of students in Zoology 401-402 and Entomology 451, so that we have not been able to handle as many students in any one quarter as we have in the past in a semester. This restriction has made it impossible for perhaps 150 students to take the beginning zoology and considerable additional assistance in the laboratory will be required before we can handle all the students desiring to take this course. It will also be necessary to rewire the laboratory in order to permit the holding of laboratory classes later in the afternoon than is possible with our present poor lighting system.

There was no change in the number of the staff and no new appointments except four graduate assistants.

The total number of students enrolled in all courses during the four quarters was 1550. Of these, 92 were enrolled during the Summer Quarter, 598 during the Autumn Quarter, 387 during the Winter Quarter, and 555 during the Spring Quarter. This is an increase of more than 200 over any preceding year.

Six men completed the work for the degree of Doctor of Philosophy in June, 1923, namely, Walter C. Kraatz, F. H. Lathrop, R. V. Bangham, Albert Hartzell, J. T. Potgieter, T. H. Guyton. Eight students completed the work for the Master's degree, namely, C. R. Neiswander, M. O. Lee, C. H. Fravel, J. W. Price, B. B. Harris, L. F. Edwards, F. A. Hitchcock, and Edna L. Patterson. Besides these, 11 students were registered for graduate work in the Department during the year, making a total of 25 graduate students. The graduate work appears to be making rapid advancement both in the Zoology and Entomology courses.

CHANGES AND ADDITIONS IN CURRICULUM

The only changes are those necessitated by the Four-quarter Plan, namely, the renumbering of courses, the change in number of hours, etc. No new courses have been added during the year.

CHANGES AND ADDITIONS IN EQUIPMENT

Nothing worthy of mention has been done under this head. Four new microscopes were purchased but the rest of the small fund allotted to the Department for equipment was spent on various smaller items.

THE LAKE LABORATORY

The personnel of the staff is the same as in the past several years: R. C. Osburn, Ph.D., Director, Ohio State University; Frederic H. Krecker, Ph.D., Assistant Director and Instructor in Zoology, Ohio State University; C. H. Kennedy, Ph.D., Instructor in Entomology, Ohio State University; S. R. Williams, Ph.D., Instructor in Zoology, Miami University; M. E. Stickney, M.A., Instructor in Botany, Denison University.

The equipment has not been added to materially for several years.

Twenty students were registered for work at the Laboratory during the season of 1922. The majority of these were graduates working toward advanced degrees and the remainder advanced undergraduates. Ten different institutions of learning were represented in the attendance. The limit of our capacity has been reached and no attempt has been made to advertise the Lake Laboratory. The coming session in 1923 will have a full attendance. Until a suitable building can be provided, the laboratory is housed in an attic room of the State Fish Hatchery, and our thanks are due to the State Division of Fish and Game for this space and for many other courtesies extended to us in various ways.

The living quarters consist of an old house rented for the six weeks and paid for by a pro-rata charge to the students and faculty residing there. The price charged is rather exorbitant for the facilities afforded, but there is no other means of taking care of the situation.

The Lake Laboratory is a fine adjunct to the research work of the Department and affords many opportunities for training in field work and for the pursuit of research leading to the Doctor's and Master's degrees. It is our one great opportunity for out-door zoology and the region is all that could be desired. Better working facilities are much needed.

RESEARCH

The members of the teaching staff in this Department have been very busily occupied with a heavy teaching program which has prevented any great amount of research work being accomplished during the Autumn, Winter, and Spring Quarters.

Professor R. C. Osburn, during the summer of 1922 continued to conduct research on the fishes of Ohio as in the past two seasons.

Mr. E. L. Wickliff and Mr. R. N. McCormick were engaged in this work under his direction for the State Division of Fish and Game, throughout the summer. In addition Mr. R. V. Bangham carried on research on the parasites of game fishes under Professor Osburn's direction, throughout the summer. Otherwise Professor Osburn has conducted the research of two Ph.D. candidates and four M.Sc. candidates throughout the year. He has also carried on some personal research on marine Bryozoa.

Research Professor Herbert Osborn has continued the work on Hemiptera and on the insect enemies of meadows which has engaged his attention for a number of years. He has also conducted the research work of four men for the Doctor's degree and of several other graduate students in Entomology.

Associate Professor J. S. Hine has been on leave of absence during the entire year, spending most of his time in research on insects at the Museum of the University of Michigan. He has also made one collecting trip for a couple of months to the West Indies.

Assistant Professor W. M. Barrows has continued his study on a problem in Genetics, one paper being published.

Assistant Professor F. H. Kreckler has published one paper and has other problems under investigation.

Assistant Professor D. M. DeLong has completed research on groups of Hemiptera of economic importance and has begun a series of economic problems on insect control in co-operation with the Brown Orchards north of the city.

Assistant Professor C. H. Kennedy has continued his investigation on the Odonata, dragonflies, producing several papers during the year.

Assistant Professor W. J. Kostir has carried on work through the year on certain problems connected with the one-celled animals (Protozoa). His illness toward the end of the year prevented the completion of the problem but this will be finished later.

Mr. E. L. Wickliff, Instructor, continued the work begun two years ago on the Ecology, Food, and Distribution of Ohio fishes. He has also worked on the age and size at breeding of Ohio game fishes in comparison with the legal size for the capture of these fishes. The results indicate that many of our Ohio game fishes do not have proper opportunity to spawn before they reach the legal size limit.

Mr. W. C. Kraatz, Instructor, has worked out the mode of development of the intestine and the food of one of our common minnows, which is noteworthy for an extremely elongated intestine with a unique type of coiling. The results of this work are embodied in Mr. Kraatz's doctor's dissertation.

Extension Professor T. H. Parks has been very fully occupied with the work of his office but has found time to carry on investigations on the control of the Hessian fly, the potato leaf hopper, and the European corn borer especially.

Our graduate students have been especially active in research work in the pursuit of their advanced degrees. The following men, in addition to Mr. Kraatz, already mentioned, have completed work on the subjects indicated for the doctor's dissertation:

R. V. Bangham, Fellow in Zoology; The parasites of the black bass of Ohio including work on life histories, new species, and injury.

Albert Hartzell, Fellow in Entomology; Life history, distribution, economic importance, etc., of certain of the leafhoppers.

F. H. Lathrop, Special Research Council Fellow on Sulfur Compounds in Insect Control; Life history and economic importance of certain species of aphids.

J. T. Potgieter, Government Scholar from the Union of South Africa; A study of the Aphididae of South Africa.

T. L. Guyton of the Bureau of Plant Industry of Pennsylvania and a former Fellow in Entomology; The Aphididae of Ohio, including important life history studies.

Eight other graduates have carried on research work in completion of the requirements for the Master's degree and 11 other students have problems under way.

EXTENSION SERVICE

The time of Extension Professor T. H. Parks has been very much occupied in special problems which have taken him about the state for a good

portion of his time, at the special call of county agents and others. Especially noteworthy have been his efforts in the control of the Hessian fly, the chinch bug, potato and apple pests, etc., and his co-operation with state and government workers on the European corn borer in the northern part of the state.

Professor R. C. Osburn, Herbert Osborn, and D. M. DeLong assisted also as occasion required, in the identification of various pests and in correspondence concerning methods of control. Members of the Department and especially Professor Parks, have collaborated with the State Experiment Station and the State Department of Agriculture in reporting outbreaks of insect pests to the United States Department of Agriculture Insect Pest Survey.

Assistance was also rendered by various members of the Department in the wheat-pest survey which has yielded information of so much importance in the past few years.

Mention should be made also under the head of Extension Service of the collaboration of Professor Osburn and Mr. Wickliff with the State Division of Fish and Game, in which considerable service has been rendered throughout the year.

PUBLICATIONS BY MEMBERS OF THE DEPARTMENT

R. C. Osburn—Bryozoa of the Canadian Arctic Expedition, 1913, 1918, Vol. 8, Part D, Report of the Expedition.

Several other papers nearly completed.

Herbert Osborn—The New Species of Cicadellidae from the Southern United States. The Florida Entomologist, Vol. 6, No. 2.

Herbert Osborn—Neotropical Homoptera of the Carnegie Museum, Part 1. Annals of the Carnegie Museum, Vol. 15, No. 1, 1923.

Herbert Osborn—Neotropical Homoptera of the Carnegie Museum, Part 2. Annals of the Carnegie Museum, Vol. 15, Part 2, 1923.

Herbert Osborn—Standards for the training of men who are to enter professional Entomology: Personal contact with students. Journal of Economic Entomology, Vol. 16, April, 1923.

Herbert Osborn—Note on Phlepsius and Eutetix. Ohio Journal of Science, May, 1923.

Other papers completed and in press but not yet distributed are: Ecological Study of Cranberry Lake Hemiptera; in collaboration with Dr. C. J. Drake. Homoptera of Cranberry Lake. Life History of Homoptera of Cranberry Lake. These three papers are being published in the Bulletin of the New York State College of Forestry but have not yet been distributed.

James S. Hine—On leave of absence for the year. No record of Professor Hine's publications for the year is at hand.

W. M. Barrows—The Inheritance of Angioneurotic Edema (In collaboration with Dr. J. M. Phillips). Several other papers are practically finished.

F. H. Kreckler—Origin and Activities of the Neoblasts in the Regeneration of Microdrilous Annelida. Journal of Experimental Zoology, Vol. 37, No. 1, January, 1923. Two other papers nearing completion.

C. H. Kennedy—The Ecological Relationships of the Dragonflies of the Bass Islands of Lake Erie. Ecology, Vol. III, No. 4, October, 1922.

C. H. Kennedy—The Naiad of Pantala Hymeneae (Odonata). Canadian Entomologist, February, 1923.

D. M. DeLong—The Boom Nozzle System and the Traction Duster as Factors in Grape Leaf Hopper Control. *Jour. Econ. Ent.*, Vol. 15, 1923.

D. M. DeLong—Results of Spraying and Dusting for the Control of the Red Spider (*Paratetranychus pilosus*). *Jour. Econ. Ent.*, Vol. 16, No. 1, 1923.

D. M. DeLong—The Importance of Insect Studies in Elementary and Secondary Schools. *Proc. Second Educational Conf., Ohio State University Bull.*, Vol. XXVIII, No. 16, March 24, 1923.

D. M. DeLong—New Species of Cicadellidae (Homoptera) from the Eastern and Southern United States. *Proc. Ent. Soc. of Washington*, Vol. 24, No. 4, 1922.

OTHER ACTIVITIES

Professor R. C. Osburn is Director of the Lake Laboratory. This office requires a certain amount of time in consultation with graduate students at the Laboratory, in administration work and in the conduction of research. Professor Osburn has also had charge of investigation work for the State Division of Fish and Game during a portion of the summer of 1922.

Professor Herbert Osborn is a member of the Executive Committee of the American Association for the Advancement of Science, an office which has required him to make several trips to meet with the committee. He has also served on important committees of the Association of Economic Entomologists and the Entomological Society of America. He is a Trustee of the Ohio Academy of Science Research Fund and Managing Editor of the *Annals of the Entomological Society of America*.

Professor C. H. Kennedy is Assistant Managing Editor of the *Annals of the Entomological Society of America* and is in charge of the Entomology work at the Lake Laboratory.

Professor F. H. Krecker is Assistant Director of the Lake Laboratory during the session, an office which occupies his time pretty fully for the six weeks of the laboratory session. He is also Editor of the *Ohio Journal of Science*.

RECOMMENDATIONS

In order to carry on satisfactorily the work of this Department under the Four-quarter Plan, additions to the teaching staff are necessary. The transfer of certain teachers to the Summer Quarter leaves a gap in the other Quarters that must be filled and the increase in the proportion of the laboratory work necessitated by changing from 3 hours per semester to 5 hours per quarter, in most of our courses, increases the load of laboratory work in any given quarter. The growth in attendance at the University also demands increase in the teaching staff. These demands are to be met by the addition of one instructor and several laboratory assistants.

It has been the policy of the Department to retain experienced teachers for the classroom instruction and younger assistants of graduate caliber, for the laboratory instruction work, under the direction of some more experienced teacher. This assures more thorough instruction in the classroom and at the same time, provides adequate assistance in the laboratory at less cost than would be possible with more experienced teachers. It also affords young assistants an opportunity to gain experience in teaching and this is a necessary function of the University.

The graduate work of this Department has developed rapidly within the past few years and in 1922-1923 there have been enrolled 25 graduate students,

six of these having completed the work for the Ph.D. degree and eight for the Master's degree. This amount of graduate instruction places a large demand on the time of the older professors capable of conducting research and of doing this very specialized type of teaching. Necessarily also, it limits the time at our disposal for undergraduate courses. This fact must be considered in judging the load of senior professors, and, with the increase of our graduate work, it will become necessary to add more junior members to the instructional staff.

In the work in insect control, which is an important part of our teaching of entomology, likewise some adjustment must be made in the way of laboratory space for this work. It was recommended last year that an outhouse be constructed to house a spray laboratory and our larger spray machinery and to include also a room for apiary equipment and a vivarium. This need is still more imperative at present.

It will be impossible to expand the work in beekeeping further until some adequate arrangements are made. The present space allotted to this work in the attic of the Botany and Zoology Building is not only inadequate for this purpose, but renders the work extremely laborious, since everything must be carried by hand from the apiary to the fourth floor of the building.

Professor Barrows's work in heredity has been greatly hampered by the lack of sufficient space for the rearing of small animals for course work and experimental work in heredity. The addition of a vivarium of greenhouse construction, to the outbuilding mentioned above, would take care of this matter adequately.

Our large insect collections must be given better care. The large Tallant collection of butterflies and some other insects are permanently preserved in steel cases, but it is an urgent necessity that more of these cases be provided to properly preserve the other collections of the Department.

A new lighting system must be installed in the laboratory of the Department of Zoology and Entomology in order that we may take care of the students, especially in the beginning courses. In the year 1922-1923, we had to limit the number of students in these courses because of the fact that laboratory work could not be conducted from 3 to 5 o'clock in the afternoon. It is estimated that about 150 students were turned away for this reason. These are left over to be taken care of in the coming year, and with the natural increase in attendance at the University, it is probable that our laboratory will be entirely filled, even under the proposed arrangement. The changes required will necessitate the bringing in of a wire carrying a heavier current and the installation of daylight lighting system. This work must be done during the summer of 1923 in order to have the laboratory ready for the opening of the Autumn Quarter.

The Lake Laboratory should be given more adequate support and the most urgent need is a laboratory and residence building. For the past five years, since the old site at Cedar Point was given up, the work of the laboratory has been carried on in the upper story of the State Fish Hatchery at Put-in-Bay. This, which is merely a storage room, has no equipment and the number of students which can be handled is very limited on account of space. Twenty students are about as many as can be taken care of satisfactorily. For the same reasons certain kinds of research work and teaching are an impossibility under present conditions.

Furthermore it will be impossible to extend the work to a full quarter until some change in living conditions is provided. We have had, thus far, to rent an old cottage which we have accepted as the only thing in site. This has been maintained on a pro-rata charge to the students and teaching staff who live there. This is available for only the six weeks of our present session.

A suitable lot adjoining that of the State Fish Hatchery has already been purchased by the University and an adequate building should be erected as soon as possible. At the present time our Lake Laboratory costs the University only a small fraction of what is spent by other State Universities on similar laboratories, yet ours possesses advantages far beyond those of any other freshwater laboratory in the country, in the matter of location, types of environment, and variety of animal and plant life. The Lake Laboratory might easily be developed into the most outstanding institution of its kind in the world.

The work carried on at the Laboratory is susceptible of rapid development and is of a nature which will redound to the credit of the University in a notable manner. The students are largely graduates of this and other institutions in the Middle West and much of the work carried on at the Laboratory is of a research nature, leading to advanced degrees. We are not only encouraging such students to carry graduate work but fit them to become better teachers by contact with the outdoor phases of biology. Incidentally it provides a good feeder for the graduate work at the University, as many of the students who come to the Lake Laboratory from other institutions, begin graduate work and find encouragement to go on toward higher degrees. Adequate living and laboratory buildings are essential to the development of this important phase of our work.

Respectfully submitted,

RAYMOND C. OSBURN, *Head of Department.*

REPORT OF THE COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor of presenting to the President and the Board of Trustees the annual report from the College of Arts, Philosophy, and Science for the year ending June 30, 1923.

THE FACULTY

During the year there have been about the usual number of changes among the assistants and instructors, and it has been possible to add a limited number to those greatest, namely, in English, German, and the Romance Languages. In the Summer Quarter Professor J. Phillip Schneider of Wittenberg University took charge of some advanced courses in the Department of English and strengthened the staff on duty at that time. The College has suffered a serious loss in the resignation of Professor W. J. Shepard, Professor of Political Science and Director of the Bureau of Government Research. It will not be practicable to continue this Bureau until adequate funds for its support can be provided.

THE ADMINISTRATION

Early in the summer of 1922 Mr. E. W. Balduf resigned as Secretary of the College. His duties were undertaken by Mr. S. M. Whinery (A.B., University of Indiana, M. A., Columbia University), who has rapidly acquired a knowledge of the many details of the work and has been eminently successful in assisting the Dean in the readjustment of the College of the Four-quarter Schedule. Additional clerical assistance has been provided and the efficiency of the office has been greatly improved. With the approaching removal of all student records to the new University Administration Building it will be imperative to keep duplicate records in the office of the College of Arts, thus increasing the clerical work in the office. This will produce a new tax upon our resources which we will meet as best we can. The greatest point of embarrassment and inefficiency in our office is the lack of any general means of communication with the students of the College, as explained in my report last year.

THE ENROLLMENT

The enrollment and the voluntary withdrawal after enrollment for each of the four quarters is given in the following table:

	Summer	Autumn	Winter	Spring	Total
Attendance	469	2975	2647	2430	....
Withdrawals—men	7	92	83	52	234
Withdrawals—women	7	21	23	16	67

The total enrollment of different individuals during the Autumn, Winter, and Spring Quarters was 3257. No count was made to determine what fraction of the students in the Summer Quarter were here for that quarter only. Assuming that half of them were not here in any other quarter—which is not far from the truth—the total number of individuals enrolled in the College during the year was 3491. It will be noted that the attendance in the Summer Quarter has not been greatly stimulated by the Four-quarter Division; the attendance last year having been 396 and that of two years ago 422. It should be remembered, however, that in former years students in other colleges desir-

ing to make up fundamental studies were enrolled as Arts College Students, while at present they are enrolled according to their own college.

During the year the degree of A. B. was conferred upon 271, and the degree of B. Sc. upon 27.

The reasons assigned for withdrawal were about the same as for last year and in about the same proportion, illness and lack of funds being the prevailing causes.

REASONS FOR WITHDRAWAL

	Summer	Autumn	Winter	Spring	Total
1. Ill health	10	45	51	24	130
2. Financial difficulties ..		24	14	6	44
3. To go to work.....		4	10	2	15
4. Probable failure		16	5	2	23
5. Marriage .....		..	..	1	1
6. Dissatisfied .....		..	..	4	4
7. Illness in family	1	16	14	9	40
8. Parents' request	1	1	2	1	5
9. Declining to take military drill.....		2	..	..	2
10. Request of College officials.....		1	2	1	4
11. To enter other schools.....		5	4	..	9
12. Homesick .....		..	1	..	1
13. Miscellaneous	2	3	4	2	11

DELINQUENT STUDENTS

The number of students placed on probation or dismissed for continued poor scholarship was as follows:

	Summer	Autumn	Winter	Spring	Total
Probation—men	16	170	138	97	421
Probation—women	7	30	23	21	81
Dismissed—men	8	18	41	27	97
Dismissed—women	1	6	2	8	17

To any one in intimate touch with these cases it is clear that they fall into three general classes:

(1) Those who simply do not have that kind of mental and physical vigor and the training in application necessary for continuance in college. Such students usually stand very low in the intelligence tests.

(2) Those who undertake an amount and kind of work in self-support that is fatal to successful college work. Most of these students have succeeded in going through high school while working in self-support and have never done really good school work. They are not accustomed to much preparation for the classroom and have a low idea of the standard of work upon which the college rightfully insists. It is a question whether many who fail from this cause would really do good work if relieved from financial necessities, though some would doubtless be able to remain in College. Many students earn their way and do excellent work at the same time.

(3) Those who simply fail to make the necessary effort, either through lack of interest or because of absorption in the many distractions of college life.

From time to time the College is criticized because of the numbers of students who fail. I think this criticism results from lack of knowledge of the facts. A University must be a democracy and the student must assume his share of responsibility. The standards of requirement are by no means too high and the only way of maintaining them is to enforce them. No student is

dismissed without full notice, both to himself and to his parent, that he is doing very poor work and must improve or face the consequences. The number failing is not at all beyond what should be expected considering the ease with which all classes of students may enter the University.

REINSTATEMENT

The following table presents the facts regarding the readmission of students who have previously failed.

	Summer	Autumn	Winter	Spring	Total
Number applying	7	65	18	22	112
Number readmitted	5	45	12	17	79
Number declined	2	20	6	5	33
Examined on books.....	4	24	6	3	37
Passed	3	17	5	2	27
Failed	1	7	1	1	10

The methods of dealing with the readmission of students who have failed, described in my last report, have been improved and extended. No student is denied further educational opportunity because of misfortune or of temporary carelessness and indifference. If adequate explanation such as ill health or worry is evidenced, the student is at once given a new trial. If he evidently cannot adjust himself to the conditions of a university of large numbers he is assisted to gain entrance to a smaller college. If he has been careless and indifferent he is assigned a list of three or four books of profitable reading as a test of his sincerity and determination, and he is examined upon this list. He is readmitted if he demonstrates that he has made an earnest effort. The latter plan is proving more and more successful. Many students decline to make this effort and so eliminate themselves from further consideration. Of those who accept it, at least two-thirds have maintained good average standing upon readmission.

HIGH SCHOLARSHIP

ANNUAL HONOR LIST

At the close of the year 85 students in the College were found to have attained a standing that entitled them to a place upon the annual honor list. All of these during the current year attained a grade of "A" in at least half of their work and not less than "C" in any of it.

COMMENCEMENT HONORS

Of the students who received the degree of Bachelor of Arts during the year, 26 were graduated with distinction or high distinction.

PLANS FOR PROMOTING SCHOLARSHIP

Two plans have been adopted by the College looking toward an incentive for better scholarship. The one contemplates organizing honor sections in the courses that have large enrollment constituted of students who have earned access to them by superior work in all classes. Students in small sections can cover more ground and retain more enthusiasm for their work than when held back by students of low attainment.

The other is an experiment in trying an honor curriculum, carefully chosen, in which a group of superior students will work together in all classes and cover as much ground as their ability permits. It is hoped that in this way the group may attain a thorough grounding in a number of lines of study

sufficient to admit them to graduate work in any one of the main lines of the curriculum.

STUDENT HEALTH

While there has been no marked epidemic illness among the students during the year, there has been in the aggregate a good deal of illness. Many students in need of more attention than the existing health service can provide or, having such contagious diseases as Scarlet Fever, have suffered on this account. It would appear that our numbers have become so large that some form of health insurance is now practicable. Such a plan is in force in many institutions, and the cost to each student is kept very low. It would be a great relief to know that sick students are properly cared for through serious illness, and that the expense to such students is small.

THE FOUR-QUARTER PLAN

The Four-quarter Plan of work has now had one full year of trial, and professors and students are forming somewhat definite opinions as to its merits and defects. It appears to be the general opinion within the College that it has resulted in harder work for both student and professor. All elementary courses and many advanced ones meet daily and the student finds the necessity of consecutive application. He is more acutely aware of any arrears, and if he falls behind by reason of illness or other causes, it is more difficult to catch up than it formerly was. He is apt to become discouraged and inclined to want to drop a part of his work or withdraw altogether. Advanced courses conducted on the daily plan have proved unsatisfactory in many cases. The student is unable to accomplish the requisite amount of collateral reading and the course tends to become routine.

There is undoubted advantage in the shorter time for the deficient student. He can make a new start with a minimum loss of time. He is also more quickly discovered by his teachers and dismissed for poor work. The good student receives no corresponding advantage. There is much more flexibility to the plan in the ease with which a student may renew his work at any time after an absence, but no marked tendency has been observed on the part of students to take advantage of this opportunity, nor have students in general made large use of the Summer Quarter save to make up deficiencies. Owing to the necessity of placing the Christmas holidays at the end of one quarter, and of adapting the Summer Quarter to the vacation of teachers, there has been little or no gain in the actual number of teaching weeks beyond what has come about through shortened examination periods.

In administration, the plan has increased the work very considerably by increasing the periods for enrollment from three to four each year. In the interests of teachers it has been necessary to divide the Summer Quarter into two terms and provide half-courses for those terms. This cannot be done with economy of teaching staff.

WITHDRAWAL OF STUDENTS IN COMMERCE AND JOURNALISM

The most important modification of the work of the College during the year has been the decision of the Board of Trustees to withdraw from it the students looking forward to Commerce and Journalism and reorganize that College upon a four-year basis beginning next fall.

This change is in line with the policy of the University that has prevailed in regard to other colleges on the campus and as such no criticism can

be offered. There is certainly no good reason why the College of Education should be a four-year college while the College of Commerce and Journalism is denied this form of organization if it desires to have it.

I feel, however, that I should record my conviction, shared I think by nearly all of my faculty, that as an educational policy it is wrong in both cases. The students in Arts, in Education, and in Commerce and Journalism have at least two years of work that is common to all and should be taken as a foundation. It is taken, as it should be, in the same mixed classes and under the same teachers, however the students may be assigned to colleges. There is no need of modifying the content of these fundamental courses to meet the fancied need of special groups of students, nor is this contemplated. If specialization in these fundamentals is to be encouraged one can hardly feel that we are really educating young people, but rather are making technicians of them.

Educationally, it would be much more rational, as well as efficient, to bring all this elementary work under one administration as a junior college in charge of a dean actually interested in this work, and have all the specialized work in all the colleges based upon several curricula adapted to the needs of the several groups. Under this plan junior students would receive an amount of supervision and assistance that they cannot secure under the plan adopted. As it is, students in the very same classes are responsible to four different deans and will be dealt with in four different ways when they slip in their work.

The main arguments for this complete separation of colleges are (1) It allows specialization from the first year on and (2) It creates a professional spirit—an esprit de corps—in the professional group from the very start. These effects are doubtless to the advantage of the specialized college as an organization, but it is my belief that it is narrowing to the individual student.

What the effect on the College of Arts will be of splitting off from it every group of studies that constitute any outlet into active life and compelling it to be wholly academic in character, remains to be seen. We rely upon this College to preserve the fine quality of independent and disinterested learning that alone differentiates a real university from a collection of technical and trade schools. If we lure or drive away from it every student that begins to have some objective in study, presenting to him as forcibly as we can that it is a waste of his time to linger in the College whose object is to make him a man of as wide a horizon as possible; if we urge him to enter as soon as possible upon work permeated by a professional spirit we shall have to feel some concern for the scholarly interests of the University and we shall incur some risk of turning out more specialists and fewer good citizens.

HOUSING CONDITIONS

For a number of years it has been pointed out in these reports from the College of Arts that the housing conditions under which nearly all the departments within the College do their work are most inadequate and react very disadvantageously upon the quality of this instruction. In my report of last year I called especial attention to these difficult conditions and on behalf of my faculty I urged that University Hall be refitted as the head-

quarters of the College of Arts and for the Departments of History, Political Science, Mathematics, and Philosophy. I also urged that a new building be provided for the several Departments of Language.

A committee of the faculty has presented these facts more in detail to the Building Committee constituted by the Board of Trustees. This faculty committee has urged that the Board of Trustees consider favorably these three recommendations:

(1) That upon the completion of the new Administrative Building, University Hall be set apart for the Administrative Offices of the College of Arts, and for the Departments of History, Political Science, Philosophy, Mathematics, and Psychology (as long as the latter is unprovided with other quarters); and that the Architect be instructed to proceed to draw plans for such changes as may be required.

(2) That at the earliest possible time, the Board set aside funds for the construction of a building to house the several Departments of Languages, many of whose interests are in common; and that the Architect be directed to begin upon plans for this building as soon as possible since it will not be an easy building to plan.

(3) That the Board of Trustees definitely designate the approximate site of the old Botany Building, located between Orton Hall and the Library, as the location for this building. It will thus be adjacent to the Library and opposite to University Hall across the Oval.

There can be no question that the construction of this building is an urgent necessity. The languages at present have headquarters in three different buildings and conduct classes in nearly all the buildings around the central campus. Last fall the Language Departments had a total enrollment of 4858 students, yet very few of their recitation-rooms could be equipped with any suitable maps, charts, books, or other aids; no department libraries or reading-rooms are available; all the offices are small and crowded and personal consultation with students is almost impossible. The situation requires attention and it is hoped that the plan proposed by the College may be adopted.

THE LIBRARY

It is a matter of sincere satisfaction to the College that the general appropriation for the Library has been substantially increased for the biennium. It is nevertheless true that this appropriation is still inadequate for our needs. We must face the fact that we are undertaking a very great variety of work in the University, and in each department of instruction a costly library is a prime necessity. Each new line of instruction must be provided with at least a nucleus for a library, and the provision of so many nuclei has kept the older departments very much at a standstill, able to buy merely the most important volumes. Each year our more advanced courses attract larger numbers and the necessity for a scholars' library in many lines of work becomes more acute.

Unless still larger appropriations can be secured from the state it seems evident that funds must be solicited from private sources in the form of endowments. Some other state universities are rich in such resources, and there must be friends whose interest can be awakened in so worthy a cause. It would seem appropriate for the Board of Trustees to sanction solicitation of such friends if this policy meets their approval.

PUBLIC LECTURES

It is a matter of congratulation that the year has brought to us as public lecturers an unusual number of scholars of distinction. As a rule they have come under the auspices of various departments, and their lectures, while of general interest, have been addressed to students in these departments. This is true in the Departments of English, Romance Languages, Philosophy, History, and Political Science. In some cases the Graduate Council has been able to lend financial assistance, and in others the department has raised the necessary funds. In the latter cases professors have occasionally been called upon to meet a deficit. In nearly all cases the student attendance has amply justified the small outlay required to pay the expenses of the lecturers, and it is to be hoped that this policy of bringing before our students men of distinction from other institutions may be continued and enlarged. Few limited expenditures yield so rich a return.

DEBATING TEAMS

The past year has added further to the steady growth of the interest in public-speaking activities. Five intercollegiate debates were held, in all of which our speakers were victorious. The men debated with Indiana University, the University of West Virginia, and Washington University. The women met the University of Michigan in two debates. Various local contests in debating and oratory were held, all of which show a healthy interest in this activity which makes for better citizenship and which tends to emphasize the intellectual life of the University.

OVERFLOWING SECTIONS

The year has been marked by a constant struggle to deal with the problem of overflowing numbers in many of the elementary courses. Long before registration is complete in the fall, most of the courses open to Freshmen have been closed and the student assigned to such courses as were still left. In part this is incidental to the Four-quarter Plan which provides that many of these courses shall be repeated each quarter. It is the expectation to distribute the students among the three quarters rather than start them all at one time in a given course. When, however, all courses are more than filled, and when at the end of the year several hundred have been denied access to a number of fundamental courses, it is clear that the instructional force is insufficient.

No new courses have been offered in the College during the past two years (save as some one new course replaced one withdrawn, or was new in name only), and nearly all elementary sections have been conducted at maximum capacity, excepting in a few cases in which conflicting schedules resulted in unforeseen limitations, so it is difficult to see how any extensive improvement can be made in administration. We shall, however, gain something in our knowledge of how to distribute the courses through the several quarters to meet the greatest demand.

With the practice of every possible economy in instructional staff, it is still evident that we must have considerable extension as soon as possible in the fundamental courses. This extension should have the precedence over expansion along lines not as yet undertaken.

Very respectfully submitted,

W. E. HENDERSON, *Dean.*

REPORT OF THE DEAN OF THE COLLEGE OF COMMERCE AND JOURNALISM

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Commerce and Journalism for the year ending June 30, 1923.

The registration in the College for the year is as follows:

Summer Quarter	136	The number of graduates in 1922-1923 were as follows:	
Autumn Quarter	487		
Winter Quarter	519		Men
Spring Quarter	518		Women
			180
			30

The registration in each of the individual courses of each department of the College was as follows:

	Summer Quarter	Autumn Quarter	Winter Quarter	Spring Quarter	Total
Accounting	107	506	470	508	1591
Business Organization	78	913	1435	1062	3488
Economics	232	1114	1088	801	3235
Economic and Social Geography.....	145	511	673	642	1971
Journalism	26	202	243	164	635
Sociology	175	640	645	561	2021
Total.....					12,941

COMMERCE COUNCIL

Within the year a College of Commerce Council was organized "to promote good fellowship and understanding between the students and the faculty; to knit more closely together the students, the faculty, and the business world; and to forward the interests of the College of Commerce and of the Ohio State University." The membership of the Council is made up of representatives from each of the following student organizations: the Alpha Kappa Psi, the Delta Sigma Pi, and the Beta Gamma Sigma fraternities, the Accounting Club, the Foreign Trade Club, the Industrial Management Club, and the Junior Ad Club. The Dean and Secretary of the College and another member of the faculty may also be members of the Council. Each organization is represented on the Council by a Senior member and a Junior as an alternate. The Junior alternates are to attend all meetings during the Spring Quarter and all other meetings when the Senior member of the organization cannot attend.

The Council held frequent meetings, discussed ways in which the student body could best co-operate with the faculty, made recommendations to the Dean expressing the student point of view, conducted the weekly luncheon* and forum of the students and the Commerce Faculty which were addressed usually by business men, organized and managed the Commerce Dinner given jointly for the students of the College and the business men of the city. The Council co-operated in various ways in the administration of the College, including the management of the Commerce Library during the Spring Quarter

* The Weekly Luncheon was organized by Delta Sigma Pi, Commercial Fraternity, and after the Commerce Council was organized the Fraternity suggested that the Commerce Council, which represented all the Commerce students of the University, take over the Weekly Luncheon, which was done.

when the University no longer had funds to employ attendants for the Library. The work of the Council within the year has been highly gratifying and it promises to be one of the most effective instrumentalities of the College in promoting its efficiency in every way.

LECTURES

In December, 1922, the Dean of the College of Commerce and Journalism wrote the Secretaries of the Chambers of Commerce of Ohio cities, offering the services of members of the Faculty of the College of Commerce and Journalism in delivering lectures on a variety of topics of interest to business men, to Chambers of Commerce, and other business men's organizations. These lectures were to be given with the understanding that the organizations addressed were to defray the traveling and other expenses of the lecturer. Within the year nearly 100 lectures were delivered by the Faculty of the College of Commerce and Journalism to business men's associations and groups of other men in all sections of Ohio. We believe that this is a service, eminently worth while, which should be continued by a college which represents the business interests of the state.

CONFERENCES

The following conferences were held at the University by the College of Commerce and Journalism within the year:

1. Conference on Probation Officers and Juvenile Judges, July, 1922.
2. Management Week—Autumn Quarter.
3. Conference in Co-operation with Secretaries of Ohio Chambers of Commerce—Winter Quarter.
4. Newspaper Conference in Co-operation with the Associated Ohio Dailies—Winter Quarter.
5. Accounting Conference—Spring Quarter.

The Conferences have been very valuable, each for different reasons. An increased budget for conferences has been recommended and it is our expectation that they will grow to become a vital part of the work of the College of Commerce and Journalism. A more detailed report giving the work of each conference will be submitted by the College Committee on Conferences.

HOUSING FACILITIES

What was said in former reports concerning the inadequate housing facilities for work in Commerce and Social Administration continues to apply. However, it is hoped that within the year the buildings for Commerce and Journalism will be completed, at which time the College will be much better equipped for work from the point of view of building and laboratory equipment than it has ever been before.

RESEARCH WORK

The members of the teaching staff of the College of Commerce and Journalism have been as active in research work within the year as their teaching load and facilities would permit. Many articles have been written by them for scientific journals and other publications. The most conspicuous contributions completed within the year are books by J. Anderson Fitzgerald on "Making Use of a Bank," accepted by Henry Holt and Company; by C. C. North on "Social Differentiation," accepted by the Lippincott Company, and a study by Miss Mary Louise Mark on "A Study of the Form and Extent of

Criminal Records and Statistics in Ohio," for the American Institute of Criminal Law and Criminology.

The teachers of the College as a rule have a heavy teaching schedule and large classes, and some of them have outside activities in the interests of the College. The carrying on of research work by the faculty of a college is absolutely essential to the success and life of a college. A comparison of the registration and the budget for teachers in the departments of the College of Commerce and Journalism and that of the registration and budgets for teachers of other technical and professional colleges of the University will show that the College of Commerce and Journalism is under-manned and has been since its organization. We regret to report that the allotment to the College of Commerce and Journalism from the budget for teaching for the year 1923-1924 leaves us relatively worse off than heretofore as compared with some of these colleges.

BUREAU OF RESEARCH

Early in 1918 the Board of Trustees approved the organization of a Bureau of Business Research and a Bureau of Social Research. In the budget for 1923-1924 an allotment has been made for the organization of a Bureau of Business Research. This, we believe, will prove to be a starting point to a very valuable development of the Commerce work of the College in promoting its research work, in giving greater vitality to its teaching, and in serving the business interests of Ohio in a very wholesome way.

The Bureau of Social Research remains unorganized, because of lack of funds. This we feel is a great mistake. The need for a direct service to the social agencies of the state, such as a Bureau of Social Research organized by the University can render, has been made obvious to us many times. Last year we loaned one of our teaching staff to the Ohio Institute for Public Efficiency to do for this organization a piece of investigative work which the Department of Sociology through a Bureau of Social Research should be doing directly. Those interested in improving the Juvenile Courts and the probation service of Ohio have repeatedly requested the Department of Sociology to give institutes for them; while those interested in improving the work of the Family Service Societies have asked for institutes for their benefit. On two occasions, including the present summer, the National Federation of Community Councils has selected the Ohio State University and the Department of Sociology to give courses for the training of community executives, and students have been sent from all parts of the United States to take these courses.

The purposes of a Bureau of Social Research have been stated fully in former reports. The opportunity of promoting public welfare by improving the efficiency of the social-welfare institutions of the state through a Bureau of Social Research is so clear that a Bureau of Social Research should be organized at the earliest possible time.

A FOUR-YEAR COLLEGE

Last year in the annual report to the President and Board of Trustees a four years' College of Commerce and Journalism was recommended and reasons were given for the changes recommended. Within the year you took favorable action upon the recommendations and the Faculty of the College of Commerce and Journalism adopted a four years' course which has been approved.

In organizing a four years' course it has been the aim of the College Faculty to adapt the work of the College to the work of the High School, to require students to take their fundamental courses the first two years, as far as possible, and to reserve the last two years for the technical and professional courses in Commerce, Journalism, and Social Administration. A course on the Elements of Business Administration giving an outline of the field is required the first year of Commerce students, while a course on the Elements of Social Administration is required of all students in Social Administration the second year.

We confidently anticipate a great growth and development of the College of Commerce and Journalism under the four-year plan.

Very respectfully,

J. E. HAGERTY.

REPORT OF DEPARTMENT OF ACCOUNTING—1922-1923

DEAN JAMES E. HAGERTY—The task of the Department of Accounting during the year 1922-1923 was that of providing instruction to meet a very marked increase in the registration in the advanced courses with only a slight increase in the teaching force. The elementary course had an average enrollment of about 325 students each quarter. In the advanced courses, the enrollment averaged about 230 per quarter. The average size of the sections in elementary accounting was 26, and in advanced accounting was 32.

Owing to the additional responsibilities assumed by accountants of industrial enterprises it has been found desirable to provide a group of courses to train graduates to fill positions of this kind. This group is known as Industrial Accounting and is offered in addition to the Public Accounting group which is intended to train students to enter the professional field of accounting practice.

The report of the Committee on Business Conferences will probably mention the two successful meetings with the Ohio Society of Certified Public Accountants on the campus. It is the hope of this Department that such conferences can be continued.

Respectfully submitted,

G. W. ECKLEBERRY.

REPORT OF THE DEPARTMENT OF ECONOMIC AND SOCIAL GEOGRAPHY

DEAN JAMES E. HAGERTY—The Department of Economic and Social Geography submits the following report for the year 1922-1923:

The enrollment for the year totaled 1960, an increase of 15 per cent over the previous year notwithstanding the fact that at the beginning of each quarter except the Summer Quarter, the registration in the elementary courses had to be stopped while the demand was still strong, due to the inadequate number of the teaching force. The advanced course on World Industries and Commerce was withdrawn in the Autumn Quarter for the same reason. Even then, sections too large in certain advanced courses and too

much reliance upon inexperienced assistants in some sections of the elementary courses, were necessitated.

It is hoped, however, that adequate additions to the number of teachers in the Department may remedy this situation during the coming year. Other handicaps as to rooms, equipment, and department library material are also expected to disappear upon the completion of the new Commerce Building. Then, too, the putting into operation of the Bureaus of Business and Social Research, it is believed, will render available much geographic material now buried in government and commercial publications and make accessible many facts of commercial and industrial geography of importance in actual business relationships.

During the year the organization of a Foreign Trade Club among the students of the Department and, through the efforts of Professor Van Cleef, its enjoyment of helpful relations with the Export and Import Club of Columbus, together with the including in the curricula of the College of Commerce and Journalism of a new group of studies on Applied Geography have resulted in increased interest, among the advanced students, in the practical applications of geography. The increase in the number of graduate students in the Department has warranted the offering for next year of a Seminary in Geography and Commerce.

The heavy teaching load of the instructors has hindered research work, but considerable service has been rendered in the way of talks to groups of business men by members of the Department. Mr. Van Cleef's services in this respect, both in Columbus and in several other towns of the state, are especially to be commended. Also during his quarter off last summer Mr. Van Cleef spent much of his time in New England studying the Economic and Social Geography of the Finns in that region.

Among his several published articles during the year, one on "The Old World in the New" in the Scientific Monthly of May, 1923, gives some of the points brought out in that research. The Head of the Department also during his summer field trip devoted some time to study of the geographical relations of the cherry and grape growing industries of Michigan, Ontario, and Western New York.

The vacant instructorship caused by the resignation of Mr. Forest I. Blanchard at the end of the Summer Quarter to accept a position as instructor in Geography and Industry in the Wharton School of the University of Pennsylvania was offset by the appointment to an assistant professorship of Mr. Fred A. Carlson, who obtained his degree of Doctor of Philosophy from Cornell University and who last year was an assistant professor in the Northern Branch of the University of California.

This appointment materially strengthened the Department, but the large enrollment this year and the prospective increased registration next year, due to the additional geography requirements of the new four-year courses of the College of Commerce and Journalism, are deemed to justify the recommendation of the promotion of the ranking assistant professor to a professorship and the appointment of another assistant professor, an instructor, and an additional assistant.

Respectfully submitted,

C. C. HUNTINGTON.

THE OHIO STATE UNIVERSITY

REPORT OF DEPARTMENT OF ECONOMICS
FOR YEAR ENDING JUNE 30, 1923

DEAN JAMES E. HAGERTY—The most gratifying feature of the work of this Department within the past year has been the improvement shown by the students in the way of scholarship. The post-war slump in scholarship which seems to have been general in all departments in all colleges and universities the country over fortunately seems to have ended, at least in this Department, and we seem to have reached a state of "normalcy." Another gratifying thing has been the increased registration and the high quality of the graduate students. This calls for an increase in the instruction for such students, for which, fortunately, provision is now being made.

The Department has made the transition from the two-semester to the Four-quarter Plan with much travail and groaning of spirit but with apparent safety. The fact that the College of Agriculture took advantage of the change to reduce somewhat the amount of Economics required of its students has for the time being, at least, reduced the total registration in the course in the Principles, especially for the Second Quarter. It has also made necessary the offering of separate courses to meet the needs of this College.

The Department of Electrical Engineering of the College of Engineering is now requiring a course in Economics of their students and, to meet their needs, they requested this Department to arrange for a special course for their students which course has been provided.

The remarkable growth of the College of Commerce and Journalism has brought about a corresponding growth of certain of our advanced courses.

During the year the students in Economics have had the privilege of hearing one or more lectures from the following eminent economists from other universities:

Mr. Henry Higgs, formerly lecturer at the London School of Economics and Associate Editor of the Economic Journal (three lectures).

President David Friday of the Michigan Agricultural College (two lectures).

Professor T. N. Carver of Harvard University (one lecture).

Respectfully submitted,

M. B. HAMMOND.

REPORT OF THE DEPARTMENT OF JOURNALISM

DEAN JAMES E. HAGERTY—The Department of Journalism submits the following report for the year 1922-1923:

The first year of the quarter system showed an increase in the total enrollment of the Department. The registrations by quarters were as follows: Summer, 26; Fall, 201; Winter, 244; Spring, 166; making a total of 637. The enrollment for the two semesters of the preceding year was 601. About one-third of the students were women.

The only new course offered was Industrial Journalism, intended for those who expect to go into some phase of publication other than newspaper work, such as technical journals. The enrollment of 28 in this course was not large, but was satisfactory, considering it was offered for the first time.

The number of students graduating with the degree of Bachelor of Science in Journalism was 24, with two others receiving a degree for work completed during the year, making a total of 26. Nearly all of these graduates had been placed in positions before receiving their degrees, and probably by the time this report reaches you the three or four not already at work will have positions.

During the summer we are generally able to find temporary positions for the undergraduates who desire the experience. The Department insists strongly on this practical preparation during university days.

The Ohio Newspaper, published by the Department of Journalism for the newspaper men of the state, has had another successful year and is filling the place that it hoped to fill, begun in 1919. We are constantly receiving praise of this magazine from the publishers of the state, and by its circulation the newspaper men of the state have come to feel a deep interest in the University and its Department of Journalism.

The second annual contest, held under the direction of the Department for high-school publications, was successfully conducted. The first contest was for weekly and biweekly newspapers. This year we added a contest for school magazines published not less than six times during the school year.

In January the Department co-operated with the Agricultural Extension Department of the University in conducting a meeting of newspaper men and offering prizes for the best newspaper entering the competition. The competition was based on three things: the makeup of the newspaper, the editorial, and the community and farm news service. About 200 papers were entered, showing a large amount of interest on the part of the publishers. A day's program of speaking and discussion of newspaper problems was held in connection with the contest. This was the first program of the kind held here, and the Department is encouraged to continue it another year. Immediately following this day's proceedings came the two days' session of the Associated Ohio Dailies, the planning for which was in the hands of the Department.

In February occurred the meeting of the Buckeye Press Association, the organization of weekly newspapers of the state, and in this meeting the Department assisted largely in the program making. It is the hope of the Department that in another year all three of these meetings will be combined in a week of meetings under the general auspices of the University.

The Robert F. Wolfe journalism medal, for the best all-around work and thesis, was awarded in June to Karl Bone Pauly of Middletown, Ohio.

The hope was expressed, in the last annual report of the Department, that during the following year the new Journalism Building would be ready for occupancy. Through various unavoidable delays, that hope has not been fulfilled, but during the present summer the contract will be let, and there is every assurance that before another annual report is made the Department, together with the University Press and Bindery, will be occupying a modern building.

J. S. MYERS.

REPORT OF DEPARTMENT OF SOCIOLOGY

The heavy registration in Sociology is shown in the early part of this report. The growth of the Department has been relatively rapid in spite of the fact that we have been unable to give courses for which there is a heavy demand, such as courses in Anthropology and Ethnology. The the beginning of the present summer the Department of Sociology was compelled to withdraw three courses for which there was a good registration because funds were not available to employ a teacher for these courses. These courses were The Family, Poverty, and Anthropology.

The burden on the Department is increased by the fact that it is not only one of the regular departments of the University but is a training school in Social Administration. The Department of Sociology is a charter member of the National Training Schools for Social Workers established at Atlantic City in 1919. On two occasions—1920 and the present summer—the American Association for Community Organization selected the Department of Sociology of the Ohio State University to give courses for the training of Federation Executives. Since its organization this Association has co-operated with no other school or university directly for the training of its executives. This summer, 1923, the Department is offering its third Institute for Probation Officers and Juvenile Judges and its first course for the training of family case workers.

The Department offers courses for social workers in Family Social Work, in Penology, in Recreation, in Americanization, and in Industry. This year 17 students graduated in Social Administration, while graduates of former years are holding responsible positions in all sections of the country.

In our report of a year ago we recommended that Social Administration be given a place in the title of the College which would read Commerce, Journalism, and Social Administration in the following words: "The proposed title of the College would give recognition to an increasing number of students who are graduating in Social Administration and who have difficulty now in explaining why they are completing their course in a College of Commerce and Journalism. The courses in the private schools and colleges in social work are almost invariably designated by an appropriate title, and the proposed change of title would place the Ohio State University in line with the best practice of the present time."

It is sincerely hoped that the President and Board of Trustees will take favorable action on the change of the title of the College within the present year.

Practically all the members of the teaching staff are engaged in investigative work and two of them have books almost ready for publishers. This work is carried on under serious handicaps as all live teachers of Sociology must have active contacts with social agencies, and the teaching schedules of the Sociology teachers are very heavy.

We regret to say that the teaching burden for the next year will not be lightened but increased. There have been no important changes in the teaching personnel of the Department in three years, while the teaching burden has been increasing owing to the growth of the Department. Then, as has already been pointed out, the dual character of the Department as department and training school in Social Administration imposes obligations and re-

sponsibilities on the teaching staff of the Department of Sociology not shared by the teaching staff of any other department of the University.

J. E. HAGERTY.

REPORT OF BUSINESS MEN'S CONFERENCE COMMITTEE—1922-1923

DEAN J. E. HAGERTY—The report of the Business Men's Conference Committee for the year 1922-1923 is hereby respectfully submitted:

A Committee on Business Men's Conferences was appointed by Dean J. E. Hagerty in the autumn of 1921 for the purpose of considering the whole field of the extra-mural activities of the College, such as business men's conferences, short summer courses for other than regular students, night schools, etc. The Committee entered on the study of these subjects but did not hold any conferences with outside organizations until the spring of 1922, at which time the Second Institute for Probation Officers and Juvenile Court Judges was held under the joint auspices of the Department of Sociology and the Ohio Institute for Public Efficiency.

The original committee consisted of Professors C. O. Ruggles, W. C. Weidler, and J. A. Fisher. Since the work of the Committee has constantly increased the personnel has been enlarged from time to time, until now there are eight members and a half-time secretary handling the work.

Within the year covered by this report the activities of the Committee have been along two main lines: (1) the collection and study of the programs and proceedings of Ohio commercial organizations; (2) holding conferences on the campus with various Ohio organizations.

In building up the file of programs the secretary has collected membership lists of nearly 200 organizations, including some with a membership of over 15,000 business men. As the result of this survey the Committee has the commercial affiliation of practically every business man in Ohio.

During the year the Committee held five major conferences and several minor conferences. The major conferences were: Probation Conference in Summer Quarter; Management Week in the Autumn Quarter; Conference in Co-operation with the Secretaries of Ohio Chambers of Commerce in the Winter Quarter; Newspaper Conference in Co-operation with the Associated Dailies, Winter Quarter, and Accounting Conference, Spring Quarter. Among the minor conferences were: Conference in Foreign Trade addressed by Dr. Kirtley Mather in Autumn Quarter; Conference with the Buckeye Press Association, Winter Quarter; a Sociology Conference addressed by J. S. Derbyshire, and an Economic Conference addressed by Honorable Henry Higgs, an English Economist and Statesman, in the Spring Quarter.

THE SOCIOLOGY CONFERENCE

The Second Institute for Probation Officers and Juvenile Court Judges was held at the University from July 17-28, 1922, under the joint auspices of the Department of Sociology and the Ohio Institute for Public Efficiency. Nearly 100 were in attendance, including probation officers, judges, other public officials, and social workers whose work is connected with the courts. The attendance at this Institute was larger and more representative than at the preceding Institute, and those attending strongly urged the continuance

of the Institute from year to year. The following is a list of the lecturers at the Institute:

Miss Kenosha Session, Home for Delinquent Girls, Indianapolis, Ind.

Dr. C. C. Carstens, Director of the Child Welfare League of America, New York.

Miss Florence Nesbitt, District Superintendent, United Charities of Chicago.

Miss Irene Atkinson, Division of Charities, State Department of Public Welfare.

Mr. Harry Howett, Division of Charities, State Department of Public Welfare.

Miss Edna McChristie, Director, Delinquent Girls' Department, Hamilton County Court of Domestic Relations.

Mr. A. V. Crouse, Chief Probation Officer, Hamilton County Court of Domestic Relations.

Miss Katherine Kennedy, Ohio Institute for Public Efficiency.

Miss Lucia B. Johnson, Ohio Institute for Public Efficiency.

Judge Reed M. Powell, Ohio Institute for Public Efficiency.

Judge Homer Bostwick, Juvenile Court, Franklin County.

Dr. James E. Hagerty, Professor of Sociology, Ohio State University.

Dr. W. O. Thompson, President, Ohio State University.

Among the subjects discussed at the Institute were: Purpose and Plan of of the Institute, the History and Proffress of the Juvenile Court Movement, Probation Work, Records and Record Keeping, the Importance of the Interview, the Supervision and Discharge of Cases, the Court as an Agency for Bolstering Family Life and as a Place of Last Resort, the Delinquent Girl and Her Treatment, the Detention Home, the Industrial School, Mothers' Pensions, and the Work of the Juvenile Judge.

MANAGEMENT WEEK

It may be remembered that the three national organizations, namely, the Management Division of the American Society of Mechanical Engineers, the Society of Industrial Engineers, and the Taylor Society, united in the promulgation of the Management Week idea under the chairmanship of Mr. John Younger, General Manager of the Standard Welding Company of Cleveland.

In contrast to what seems to have been the general practice, those in charge of Management Week in Columbus felt that it was not the membership of these Engineering Organizations that needed to be interested in management, but rather those business men who had not given the matter any consideration. Therefore, the Columbus committee made every effort to bring together the general business men interested in management. The program was arranged through the co-operation of the Chamber of Commerce, the College of Commerce, and the College of Engineering.

The meetings were held during the week of October 16-20, and the average attendance at the meetings was over 100, while some sessions had over 500 present. During the week, Professor W. C. Weidler of the College of Commerce addressed the Optimist Club on "The Necessity of An Organization Selling Itself to Its Members"; Professor D. J. Demorest of the College of Engineering addressed the Lions' Club and the Life Underwriters' Association on "The Engineer's Idea of Management"; Professor H. E. Hoagland of the College of Commerce addressed the Kiwanis Club on "The Manager's Administration of Finance," while Mr. L. W. Wallace addressed the Forum on "Waste in Industry."

The final day of the program was Friday, October 20, during which an all-day meeting was held at the University. Among the speakers at the Friday meetings were the following: Mr. John Younger talked on "Broadening the Vision"; Mr. Richard A. Feiss of Joseph & Feiss Company, Cleveland, Ohio, discussed "Scientific Management During Times of Depression," and

Mr. H. L. Kirker of the Westinghouse Electrical Engineering Company talked on "Railway Electrification and Its Relation to Management." Management Week in Columbus was so much of a success that there was considerable demand for printed copies of the addresses, in order that the subject might be made available for further study.

CONFERENCE OF THE CHAMBER OF COMMERCE SECRETARIES

The Committee felt it could make no better contact with the business interests of the state, than by holding a conference with the secretaries of the Ohio Chambers of Commerce. Accordingly a two-day conference was arranged for January 11 and 12, 1923. The meeting and dinner on the first day of the conference was held on the campus and the meeting on the second day at the Chamber of Commerce.

The afternoon of the first day of the conference was spent in discussing the ways and means of effecting co-operation between the College of Commerce and the business men of the state.

Dr. James E. Hagerty, Dean of the College of Commerce, spoke on the "Relation of the College of Commerce to the Business World," and Vincent S. Stevens, Secretary of the Chamber of Commerce, Akron, Ohio, spoke on "The Business Men's Need of the Services of the College of Commerce." At the evening session Dr. H. E. Hoagland of the College of Commerce, vividly portrayed the work of the College of Commerce in his address on "Training for Business," while Mr. Edwin C. Gibbs, Director of the United States Chamber of Commerce, outlined the origin of the work of the United States Chamber in his address on "The Work of the United States Chamber of Commerce." The Friday morning meeting was addressed by William C. Culkins, Secretary of the Cincinnati Chamber of Commerce, on "What Is a Chamber of Commerce?" and by Dr. Ralph E. Heilman, Dean of the School of Commerce, Northwestern University. A spirited discussion followed each address and the secretaries agreed it had been the most busy and valuable conference they had yet held.

ACCOUNTING WEEK

The fourth conference on accounting was held on Friday and Saturday, June 1 and 2. This conference is held annually in co-operation with the Ohio Society of Public Accountants and always draws a good attendance of both public and industrial accountants. The Committee was fortunate this year in obtaining Dr. W. A. Paton, Professor of Accounting, University of Michigan; Professor J. O. McKinsey of the University of Chicago, and Mr. S. C. Allyn, Comptroller National Cash Register, Dayton, Ohio, as the principal speakers. The Friday sessions were addressed by Dr. Paton, while on Saturday, Professor McKinsey discussed "Organization for Accounting Control." Mr. Allyn gave a very graphic representation of "Budgetary Control and Accounting," and Mr. Homer S. Pace, member of Pace and Pace, New York, spoke on "Tendencies in Accountancy." About 200 accountants and students attended each session of the conference. The attendance of industrial accountants at these meetings has been growing consistently each year since the origin of the conferences, and no doubt next year a full week will have to be given to these sessions.

OHIO NEWSPAPER CONFERENCE

The conference of Ohio Newspapers was held January 29 and 30. The first day of the meeting was held at the Hotel Deshler and the meeting on

the second day at the University. The meeting was held in co-operation with the Associated Ohio Dailies, who along with the Journalism Department of the College of Commerce and Journalism, sponsored a newspaper show and awarded prizes to the best dailies. Dr. Bristow Adams of the New York College of Agriculture, Ithaca, N. Y., was judge of the show.

(Signed)

J. A. FISHER, *Business Organization, Chairman,*
C. O. RUGGLES, *Business Organization,*
C. C. NORTH, *Sociology,*
H. G. HAYES, *Economics,*
W. C. WEIDLER, *Business Organization,*
G. W. ECKELBERRY, *Accounting,*
E. VAN CLEEF, *Economic and Social Geography,*
L. C. GETZLOE, *Journalism,*
GEORGE W. STARR, *Secretary.*

REPORT OF THE DEAN OF THE COLLEGE OF DENTISTRY

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the Annual Report from the College of Dentistry for the year ending June 30, 1923.

ENROLLMENT

During the year there were enrolled in the College of Dentistry 169 students. The students enrolled in the Junior and Senior classes number as follows: Juniors 68, Seniors 57. These students entered upon the four-year high-school graduation requirement, a fair proportion of them however having had from one to four years of Arts or Science work before registration into dentistry; Sophomores 19, Freshmen 25; these have entered upon the one year of pre-dental requirement; 51 registered in the Senior class were graduated June 12, 1923. This year the College of Arts, Philosophy, and Science has commenced the combined degree courses of Arts-Dentistry and Science-Dentistry. One dental student in the Sophomore class receiving an academic degree. The following Seniors were elected to the dental honorary fraternity, Omicron Kappa Upsilon: H. E. Boyer, J. F. Greer, C. S. Sauers, V. H. Traxler, L. G. Hill, and H. A. Sebald.

CLINIC

Plates, all kinds	472
Gold fillings	1331
Gold inlays	1062
Amalgams	2682
Cements	494
Enamel and porcelain.....	242
Porcelain and gold crowns.....	281
Bridges	177
Prophylaxis	1393
Orthodontia	16
X-Ray diagnostic	413
Anaesthesia, local	1116
Pyrorrhea and canal cases.....	438
Anaesthesia, general	53
Total patients for the year.....	3250
Total amount taken in for the year.....	\$15,588

FACULTY

The faculty has not changed during the year. The following activities are noted: Dr. Graham attended the American Dental Society at Los Angeles, including the annual meeting of the honorary dental fraternity, Omicron Kappa Upsilon, as delegate.

Dr. Martindale attended the Indiana State Dental Society, World's Congress of Anaesthetists, and read papers as follows: Anaesthesia in General Practice, and Teaching Anaesthesia to Dental Students, the latter before the Anti-tuberculosis Clinic.

Dr. Moberly attended the Annual Chicago Dental Society Meeting. Dr. Cottrell attended the American Institute, Dental Teachers, Omaha, University Dental Colleges, Iowa City, Annual Meeting Chicago Dental Society and

read papers before various societies, Muskingum Valley, Columbus, and Miami Valley. Dr. Bottenhorn, Dr. Semans, and Dr. Wiltberger attended the recorded meeting at Omaha, Iowa City, and Chicago.

Dr. Strosnider attended various state district meetings giving clinics. Dr. Snyder attended the Chicago meeting and read papers on exodontia at district meetings in Marion and Chillicothe. Dr. Starr also attended the Chicago meeting and several district societies. Dr. Shumway has filled the office of President of the Columbus Dental Society and attended district meetings.

Dr. Jones attended conference of orthodontia teachers held in Philadelphia, Pa., at the University of Pennsylvania. Practically all members of the faculty were present at the Annual State Dental Society held at Cincinnati.

Major Lester C. Ogg has completed his second year in charge of the dental unit R. O. T. C. and during the months of June and July is at the Summer School, Carlisle Barracks, Pa., with 34 dental students from our College of Dentistry. Major Ogg during the past year has given practically his entire time to the College of Dentistry, instructing in clinical features in a very capable manner besides his R. O. T. C. work. It is expected that this work will continue during the ensuing year.

OUTSIDE CLINICS

During the year the members of the Senior class have been putting in about four half days apiece in the following clinics: Children's Hospital, Schonthall Home, Godman Guild, South Side Settlement, and the West Side Settlement. A total of about 500 children were given free attention in all kinds of dental service.

DENTISTRY-EDUCATIONAL FUTURE

It is now recognized that, to equip the future dentist so that he may cope with bodily infection as related directly or indirectly with pathological tooth conditions, it is necessary that his knowledge of service in the conservation of human life should be equal to that of the medical man. In New York State this belief is culminating into a six-year curriculum. The six years will function in thirds. Two years pre-dental or pre-medical, if you please, two years medical fundamental principles, and two years of dental specialization. However, only about half the dental colleges are yet requiring the one-year pre-dental course. All must do so by 1926.

OUR FUTURE

The Dental Educational Council submitted its report and findings last February, upon the condition and situation of the College of Dentistry. All their letters and reports have been placed before you, Mr. President. The College of Dentistry should be relieved as soon as possible from the classification of "B." I can assure you that our dental faculty will continue its hard, earnest service as in the past.

Respectfully yours,

H. M. SEMANS, *Dean.*

REPORT OF THE COLLEGE OF EDUCATION

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor, herewith, to submit the annual report of the College of Education for the year 1922-1923.

UNDERGRADUATE VERSUS GRADUATE WORK

The College of Education, during recent years, has steadfastly maintained an appropriate emphasis on graduate work as the primary function of the University and effective instruction as the cardinal requirement of the College. Attainment of the former objective is perhaps the one most certain method leading to the attainment of the latter.

During the past year the increase in the number of candidates for the advanced degrees is approximately 300 per cent. As a consequence, the undergraduate demand has greatly increased, as indicated by the departmental reports, although not in the same proportion. We are likely to find, for a number of years, some discrepancy between the rates of graduate and undergraduate growth, that is, until the effect of graduate emphasis not only reaches the public schools of Ohio but those of neighboring states. That effective instruction is of first importance is assumed.

BUREAU OF EDUCATIONAL RESEARCH

Attention is invited to the report of the Bureau of Educational Research. The variety of service rendered during the year is gratifying beyond expectation. The report itself is sufficiently complete to indicate the value of the Bureau to the cause of public education. From the report it will also be readily apparent to what extent the Bureau is promoting the interests of the University in important educational centers, both without and within the State of Ohio. That its main emphasis is on research, advanced in character, is apparent. It should be, as its name implies, essentially a productive center. Important monographs are in progress of preparation and will appear from time to time as the University is able to finance their publication.

UNIVERSITY INTELLIGENCE TESTS

Our report on the University Intelligence Tests is presented in unusual detail in the belief that the President and Trustees are interested in the technique and method of procedure.

There have been three revisions of the test, each revision eliminating discovered defects in preceding editions. The addition of Dr. Toops to the staff of the Department of Psychology will hasten the practical application of the tests to concrete educational problems in such administrative units of the University as may desire his assistance. It is hoped that Dr. Toops may lead in future refinements of the tests and especially in applying the results. It is of interest to know that Dr. Woods as Professor of Education devotes a large fraction of his time to the administration of tests in the College of Arts in Columbia University. For this purpose he has been transferred to the College of Arts.

Several minor studies are included in the report which indicate the directions of experimentation with the tests.

CURRICULAR ADDITIONS

The proper field of the College of Education is readily defined. The College cannot easily transcend its rightful function, namely, the preparation of teachers for the public-school service.

To this end three new curricula have been adopted by its faculty. The four-year curriculum in Physical Education will serve a public-school need of long standing and will comply with recent legislation. Students may now major in Physical Education and receive the degree of B.S. in Education upon successful completion of the curricular requirements. In the construction of the curriculum it was especially desired that future teachers of physical education should have a large cultural background, especially in the biological, non-biological, and social sciences. By means of this legislation, it is believed, defects in existing curricula in other institutions have been avoided. A student completing work for the B.S. degree in Physical Education is prepared to render effective high-school instruction in science if it becomes necessary to do so. Moreover, such a student will at once win academic standing with his colleagues who offer instruction in subject matter which has long been favored with social approval.

In offering a curriculum in elementary education, the College is attempting to serve the most extensive, if not the most important, part of the public schools. Psychologically, the period of education covering the first six years of life is the most important; the primary and grammar school period is next in importance with the high school and the college following in order. Character sets and life's attitudes are established during these pre-adolescent periods.

The most that we can do, under the necessarily imposed limitations, is to center our activity on the preparation of grade principals, supervisors, and departmental teachers. It is hoped that other teacher-training agencies may follow in the establishment of four-year curricula for the preparation of classroom teachers for the grades. A college or university degree should be a minimal requirement to entrance into any schoolroom in America; and, in view of the importance of life in its plastic stages, this requirement should be first applied to elementary and rural instruction.

The curriculum in rural education scarcely needs discussion. The area served by such a curriculum is so extensive a part of public education as to challenge the attention of anyone possessed of a social vision and anyone keenly aware of the needs of children everywhere.

An abiding difficulty which has from earliest days afflicted education is that our brilliant intellects have devoted their energies to the pursuit of subjects at the top end. Social and academic distinctions appear to lie away from rural and elementary school needs and it has been difficult to enlist the highest talent in the service to these needs. In academic circles, of the more strictly conventional variety, rural and elementary school problems have been inhospitably received. This, it appears, is largely due to the meager content in subjects of instruction. Failure to envisage this content in its psychological and social setting is a second potent reason for ascribing, overtly or by implication, a position of inferiority to elementary and rural problems. As a matter of fact, most of our educational theory and philosophy of education revolve precisely around this period of education. There is a third reason why men of high academic distinction and high collegiate standards shy when

confronted with the question of admitting to University credit courses covering professional training of teachers below the high school. From earliest times this type of work has been so badly done, so relatively neglected that there has through the decades accumulated an odious tradition from which the collegiate professor could not very well escape. Moreover, it must be regretfully admitted and cannot be truthfully denied that there exists at present a large social gap between elementary and collegiate instruction. This difference intrinsically does not exist; its appearance finds its origin in the matrix of training and in the consequent degree of remuneration.

The appointment of Dr. Brim, formerly Professor of Education at Cornell University, cannot fail to carry to rural education all the conditions necessary to endow courses in this field with acceptable academic standing.

The College of Education in co-operation with the College of Medicine is offering a new five-year curriculum in Educational Nursing. The purpose of this curriculum is to prepare school nurses and teachers in schools of nursing. Graduates receive the degree of Bachelor of Science in Education and a diploma in Nursing. Under certain conditions they are also eligible for a certificate in Public-health Nursing and for examination by the State Medical Board for registration in Ohio. This curriculum combines certain features of the old curricula in Science Nursing and in Public-health Nursing and supersedes a former arrangement by which nurses completing the College of Medicine curricula might register in the College of Education for an extra year but could not qualify for a degree. The curriculum in Educational Nursing represents a distinct advance in that it affords a more carefully articulated professional preparation and also effects a saving in time, enabling students to obtain in five calendar years what formerly required seven academic years.

Over 30 per cent of the enrollment in the secondary schools of Ohio are found in commercial curricula. Commercial teachers of Ohio have for a number of years called attention to continued and complete indifference and neglect on the part of teacher-training agencies of their most elemental needs. Approximately one-third of the children in our high schools are instructed by teachers trained indifferently with respect to commercial instruction. Commercial business colleges have practically been the sole source for teachers of commercial courses. In many instances, teachers of the classics or science or languages have transferred their services to commercial instruction, often through hope of increased salaries. The need is so obvious, so extensive, and so clearly an obligation of the College of Education that the College inflexibly purposes to give continuous attention to this phase of teacher training.

It is distinctly regrettable that untoward circumstances make it improbable that the curricula in vocational and commercial education approved by the Committee on Instruction will be carried into full effect in the immediate future. Were the need less apparent and the clientele less in extent, delay in the operation of these curricula would be followed by less serious consequences. These consequences do not become manifest, largely because of existing social adaptation and because of other pressing needs which are more successful in making themselves audible.

In general, the College has made commendable progress in carrying out the purpose for which it was established; namely, the preparation of teachers for the public-school service. Its sphere of rightful operation is unmistakable

and every effort will be made to maintain its proper field of operation with the highest possible degree of excellence.

The teaching "profession" is in no wise comparable to law and medicine, and this is true in the domain of higher education. This will continue to prevail until teaching is made acceptable, economically and socially, in all its stages. Law and medicine by concentration and through unity of purpose have succeeded in professionalizing their respective spheres of social activity. In teaching we find no such concentration of effort, no comparable unity of purpose. In the teaching "profession" we find a variety of agencies engaged in teacher training, division of aims, dispersion of attention with mixed endeavor and withal a state of division unfavorable to teaching, whether in the university or in the primary grade. This unhappy state of affairs will not be remedied until all teacher-training activity is assembled under a single organization when concentration of effort, unity of aim will approximate those conditions which now prevail in acknowledged professional colleges.

DEPARTMENTAL REPORTS

Except where otherwise indicated, the following reports were prepared by heads of departments and are incorporated for the most part, as submitted.

Respectfully yours,

GEORGE F. ARPS.

APPOINTMENT COMMITTEE

J. L. CLIFTON

The work of the Appointment Committee represents but a fraction of the services of the Chairman. During the three quarters covered by this report, the Chairman has had a full teaching schedule, and, under the circumstances, has been unable to devote as much time to the appointment service as is desirable. During the Christmas holidays when the University was not in session, one entire week was given to this work. After the conclusion of the practice teaching (June 5, 1923) the Chairman gave full time up to June 18 to the Appointment Committee work. From June 18 to 22 a full teaching schedule was carried in addition to the appointment work. As in previous years, the Chairman again urges that an adequate personnel be allowed him and that he be given a lighter teaching load to the end that the Appointment Committee work may be done more acceptably.

Our records show that 412 people have registered for positions since September 1, 1922. Many from this list were located during the fall months and during the Christmas holidays. At the end of the Fall Quarter all graduates of the College of Education who registered were located in desirable teaching positions. This consumed a considerable amount of the time of the Chairman during January. During February, March, and April, calls for the emergency locations were continually received. About April 15 students began to register for positions for September 1, 1923. It will be observed that the Chairman is engaged in placement activity throughout the calendar year.

The greatest demand is for well-trained Home Economics teachers. The College of Education is not meeting the demand at this time. The second great need is for more teachers of Latin. The supply of Latin teachers is practically exhausted at present. The supply of Mathematics teachers is also inadequate. More young men should be urged to take a few courses in Manual Training and Athletic Coaching. The demand for such teachers greatly exceeds the supply. Another recommendation of the Appointment Committee is that efforts be made to urge students not to minor in Spanish or French, hoping to teach these subjects. A more extended training than is comprehended in a minor is required for the proper qualification of such teachers. Moreover, the output of the University in these subjects exceeds the demand. Especially is this the case with Spanish. One of the most popular subjects, especially for women teachers, is English. The number of students majoring or minoring in English is always large but the demand for well-trained English teachers keeps pace with the supply.

At the present time we have located teachers in the following cities, which indicates the wide-spread interest superintendents have in our recommendations: Cleveland, Columbus, Youngstown, Toledo, Findlay, Lima, Elyria, Lorain, Canton, Akron, Alliance, Coshocton, Zanesville, Lancaster, Circleville, Xenia, Bellefontaine, Niles, Middletown, Dayton, Chillicothe, Martins Ferry, and Delphos. We have located teachers in a great number of villages and consolidated schools. Our activities reach the adjoining states, as is indicated by locations in West Virginia, Pennsylvania, Michigan, Indiana, New Jersey, and scattered states in the West.

DEPARTMENT OF FINE ARTS

CHARLES F. KELLEY

Under the Four-quarter System several of the courses, notably those for home-economics students, have been amalgamated, with the result that the total number of registrations for the year is somewhat less than last year. When the actual number of instructional hours is considered, however, the department feels that it has held its own in registration, and has a better class of students than ever before in its history. This is notably true of those students who entered this year.

The work in the history of the fine arts has been much strengthened this year by a considerable increase in the photographic collection, due to purchases authorized by the Board of Trustees, and made by Professor Kelley in Europe last summer, at most favorable rates of exchange.

Like most other departments on the campus, the Department of Fine Arts is seriously handicapped by lack of space. The installation of a skylight in one of the studios has solved the problem to a certain extent by lengthening the daylight and making the room available for longer hours. As no other rooms are available, recommendations have been made for the installation of another skylight, and certain changes in the electric lighting system which should prove satisfactory.

At the invitation of the Z. L. White Gallery, Miss Robinson, Miss Knauber, Mr. Fanning, and Mr. Kelley gave an exhibition of paintings in the early spring, and in a later exhibition, three members of the department received honorable mention.

In the course of the year Miss Knauber held an exhibition of watercolors done during the summer, in the University Library, and Mr. Fanning followed this with a series of paintings done of the Stadium during the different stages of its construction.

The department has continued its policy of bringing exhibitions to the Campus, and has this year had four or five of particular interest.

A bronze statue of heroic size symbolizing the angel of peace has recently been completed by Mr. Saville, and will shortly be erected in the grounds of the Capitol.

The Department feels that if the support received in the last few years is continued, and more space is occupied in Hayes Hall as rooms are released by departments moving to other buildings, it will continue its healthy growth. It is gratified to learn that the need for an adequate Fine Arts Building has been recognized by the cabinet, and hopes this building will materialize within the next few years.

THE DEPARTMENT OF HISTORY OF EDUCATION

L. F. ANDERSON

One feature of the work of the year has been the increased enrollment both in the required courses for undergraduates and in the elective courses for advanced undergraduates and graduates. The latter is attributable largely to the recent revision of requirements for graduation which has made possible more extensive election of professional courses.

One unfortunate result of the increase in the size of classes has been the restriction of the opportunities of students for participation in class discussions and for engaging in and reporting on special investigations related to the work of the class.

An even more serious result has been the limitation of the students' opportunities of forming a direct acquaintance with the literature of their subject. It is impracticable, on the one hand, for a class of from one to two hundred to read assigned passages in, say, Bacon's *Novum Organum*, or Castiglione's *Courtier* when the University Library has only two or three copies of these works. On the other hand it seems scarcely reasonable to request the University Library to procure from 15 to 20 copies of each of these and of numerous other classical works with which it is highly desirable that the student of the history of education should become acquainted.

An attempt has been made to solve the problem through securing a sufficient number of copies of each of the standard collections of source material in the history of education, such as those of Monroe, Cubberley, Painter, and Leach and by restricting library assignments to these. It is hoped that, with the establishment of a departmental library in the proposed Education Building, plans may be devised for making the literature of especial importance in the field of the history of education more accessible to students in the required courses in that subject.

As was to be expected, some difficulty has been encountered in adjusting what were formerly semester courses to the Four-quarter Plan. The experiences of the year will be of value, however, in directing further processes of excision and condensation.

Since the presentation of the last annual report two new courses have been offered by this Department—one on Present-day Problems in Education and one entitled *The American High School*. Furthermore, the required courses in the History of Education have been restricted in scope to the modern period, or the period dating from the beginning of the Italian Renaissance. The course in Pre-renaissance Education has been continued as an elective. The experience of the year seems to indicate that these changes have been for the better.

The departmental studies and investigations of the year, not directly related to the regular instructional work, have been carried on largely in preparation of papers read before various organizations as follows:

The Social Status of the Teacher (an historical survey), read before the Phi Delta Kappa Society, November, 1922.

The Place of Music in the Elementary School, read before the Columbus Music Teachers' Club, November, 1922.

Evolution in Educational Theory, the Philosophy Club, Ohio State University, February, 1923.

Notes on the History of Historical Writing in the Field of Education.

The Conference of Graduate Students and Instructors in the Departments of History and Political Science, March, 1923.

DEPARTMENT OF INDUSTRIAL EDUCATION

ELDON L. USRY

The personnel of the department remained constant throughout the year. With the release of Professor Smith from Smith-Hughes work, his whole time will be devoted to the affairs of the department. This relief is very much needed in view of the following enrollment and in view of the additional work

requested by the Department of Home Economics, and the College of Agriculture for assistance in agricultural shop work.

The enrollment for the year 1921-1922 was 158; for the year 1922-1923, 232. The present year's enrollment represents the largest in the history of the Department. It is interesting to know that this enrollment is larger than that found in similar departments in any of the Middle Western state universities. Our Summer Quarter group is made up in part of men who work out their degrees solely through attendance in summer quarters. Many of them come from states adjoining Ohio.

EXTRA-MURAL ACTIVITIES OF MEMBERS OF THE DEPARTMENT

The head of the Department addressed the Art Group at the Ohio State Teachers' Meeting in December, 1923; gave the principal address before the Manual and Industrial Arts Group; served as Chairman of the Committee on Practice Teaching of the Middlewest Manual and Industrial Arts Teachers' Conference, held at the University of Wisconsin.

Owing to the heavy teaching schedule, the members of the Department have had practically no time for research work.

DEPARTMENT OF PRINCIPLES AND PRACTICE OF EDUCATION

B. H. BODE

Student registration in the Department of Principles and Practice shows a marked increase over the figures of the previous year. Owing to the change from the Semester Plan to the Quarter Plan, however, it is somewhat difficult to make a single comparison that will reveal the precise state of affairs. The enrollment for the two semesters of the preceding year, (excluding an extension course given in a neighboring city) was 440. The figures for the Autumn and Spring Quarters of the present years are 716. A comparison of these figures shows an increase of 70 per cent. Under the present arrangement the registration in the Winter Quarter is lighter because the introductory course in Principles and the Practice teaching are omitted, whereas these subjects were given both semesters under the former plan. The registration in the Department for the Winter Quarter was 140. If the three quarters of the present year are compared with the two semesters of the preceding year, with an appropriate weighting of the figures to make allowance for the difference between the Semester and the Quarter Plan, the registration of the present year still shows a gain of 35 per cent. As a clue to the number of different students that took work in the Department the former comparison is distinctly more significant than the latter.

During the course of the year the Department has devoted much attention to two major problems. One of these was the matter of teaching in the elementary schools. The time had come to take some action in this respect. There is clearly a need for some teacher-training agency that can furnish the training needed for principals and supervisors of elementary teaching and for persons who are equipped for teaching in schools that prepare elementary teachers. It was for these purposes, as well as the purpose to supply a greater number of well-trained elementary teachers, that the four-year curriculum in elementary education was proposed. This curriculum has been adopted and will go into effect with the beginning of the next Autumn Quarter.

The other problem to which reference was made just now grew out of the practice-teaching situation. In the preparation of teachers, as presumably

in all professional training, it is exceedingly difficult to secure the effective application of broad principles to everyday practices. There is a constant tendency to ignore principles in the classroom and to fall back on practices that have become familiar and have been sanctioned by custom. The prospective teachers can hardly be blamed for this. Applications that look simple after they have been made are anything but simple beforehand. The fact that a student has become acquainted with the general principles of the thinking process is no guarantee that he will be able to recognize the operation of these principles in a recitation in Geography or in History. The fact that he appreciates the significance of certain educational aims and values does not warrant the assumption that he will be able to see the bearing of these matters on the teaching of Mathematics or Chemistry. Courses dealing with principles are necessarily general. The instructor can indicate the applicability of these principles by the use of illustrations, but he has neither the time nor the training to make such applications to a wide variety of subjects in intimate detail. Since the prospective teacher can scarcely be expected to work out these applications for himself, after he is launched on his career, it follows that our efforts in training teachers will be largely neutralized, unless the work can be organized in such a manner as to bridge this gap.

In order to meet this situation, the department proposed a plan which provided that the prospective teacher should pass from the general course in Principles of Education to a special course in the subject which he expects to teach, the purpose of such course being to apply the principles in detail to the special subject matter. Such a course would be essentially a reinterpretation or re-evaluation of the special subject matter, in order to bring out its significance for the realization of educational aims. The execution of this plan calls for the co-operation of specialists who are equipped by interest and training to undertake the arduous work of establishing a vital connection between a particular subject and a far-reaching philosophy of education.

The foregoing plan was approved in principle, and authorization was given to announce, for the ensuing year, certain courses dealing with the physical sciences. In so far as the idea back of this plan can be realized, the prospective teacher will acquire a broad, unified outlook, which is so often lacking in the training of present-day college students. Teacher training agencies have an inescapable obligation to translate social vision into educational practice. Unless our work in the training of teachers is inspired by such vision, the attempts to reform educational practice will have the tendency to destroy old values without creating new ones to take their place. It inevitably leads to the training of teachers who cannot educate because they have no education themselves.

The past year has brought a gratifying increase in the number of students who are taking graduate work. The number of graduate students carrying advanced work in the department this year is 44, as compared with 11 for last year. Four students are registered in the Department as candidates for the Ph.D., and this number will be doubled next year. The registration for practice teaching has advanced from 110 for last year to 160 for the present year. The demands of this work are now entirely beyond the resources of the Department. It is the policy of the Department to husband its teaching strength by conducting the introductory class in a single group of several hundred students, instead of dividing the class into a number of smaller units, but this does not enable it to do justice to the practice teaching.

THE OHIO STATE UNIVERSITY

DEPARTMENT OF PSYCHOLOGY

The following report of the Department of Psychology covers the period between June 1, 1922, to May 31, 1923.

FELLOWSHIPS AND SCHOLARSHIPS

Mr. E. A. Esper held a fellowship and devoted his time to the completion of his work for the degree of Doctor of Philosophy. Mr. W. W. Tuttle held a scholarship and devoted his time to preliminary work upon his dissertation.

GRADUATE STUDENTS

One student is a candidate for the Ph.D. at the end of the Spring Quarter and nine students are candidates for the Master's degree at this time. Six students are working toward the Ph.D. but will not receive their degrees this year.

PUBLICATIONS OF THE MEMBERS OF THE DEPARTMENTS

George F. Arps—(1) Academic Subjects in Curriculum of Commercial Education, Department of Interior Leaflet No. 2, 1922. (2) Contributions to Manual on High School and Sex Education; edited by Greenberg, U. S. Government. (3) Social Implications of Educational Selections, Bulletin National Vocational Guidance Association No. 4, 1922.

Albert P. Weiss—(1) The Stimulus Error (discussion), Jour. of Expr. Psychol., 1922, Vol. 5, 223-226. (2) Behavior and the Central Nervous System, Psychol. Review, 1922, Vol. 29, 329-342.

Harold E. Burt—(1) Cutaneous Space (Review), Psychol. Bulletin. (2) Efficiency of Instruction in Unselected Sections in Elementary Psychology Compared With That in Sections Selected on the Basis of Intelligence Tests (in collaboration), Jour. Educ. Psychol., 1923, Vol. 14, 154-161. (3) Measuring Interests Objectively, School and Society, 1923, Vol. 17, p. 144. (4) Vocational Tests for Agricultural Engineers (in collaboration), Jour. of Applied Psychology, March, 1923. (5) Intelligence and Physical Efficiency (in collaboration), Jour. of Physical Education, May, 1923. (6) Possibilities of Psychology in the Field of Advertising, Signs of the Times, May, 1923.

Henry H. Goddard—(1) A Scientific Program of Child Welfare. (2) The Annals of the American Academy of Political and Social Science, Philadelphia, January, 1923.

Sidney L. and Luella C. Pressey—(1) Introduction to the Use of the Standard Tests, p. 263, World Book Company, Yonkers, N. Y. (This book has already been adopted for teachers' reading circle use in Illinois, Arkansas, North Dakota, and Ohio.)

A. Sophie Rogers—(1) Auditory and Tactual Perception: the Role of the Image, Amer. J. of Psychol., 1923, Vol. 34, 250-67. (2) Review of Niemeyer's Children and Childhood, Jour. of Educ. Research, 1922, Vol. 6, 169-170.

Elizabeth M. Hatch—(1) Efficiency of Instruction in Unselected Sections in Elementary Psychology Compared With That in Sections Selected on the Basis of Intelligence Tests (in collaboration), Journal of Educational Psychology, 1923, Vol. 14, 154-61.

Laura M. Chassell—(1) Kuhlman, F., Handbook of Mental Tests (Review), Journal of Educational Research, 1922, Vol. 6, 165-167. (2) Efficiency of Instruction in Unselected Sections in Elementary Psychology Compared With That in Sections Selected on Basis of Intelligence Tests (in collaboration), Journal of Educational Psychology, 1923, Vol. 14, 154-161.

Marjory Bates—(1) A Study of the Muller Lyer Illusion, American Journal of Psychology, 1923, Vol. 34, 46-72.

ADDRESSES AND LECTURES

George F. Arps—About 15 lectures before a variety of audiences.

Albert P. Weiss—The Aims of Social Evolution, presidential address before the Ohio Academy of Science, Oberlin, March 30, 1923. Paper to be published separately.

Harold E. Burt—Measuring Interests Objectively, American Psychological Association, Cambridge, December 28, 1922; Psychology Applied to Advertising, Columbus Women's Advertising Club, January 11, 1923; the Scope of Advertising Psychology, Advertising Club of Columbus, Chamber of Commerce, March 5, 1923; How Psychology Can Contribute to Advertising Problems, Commerce and Journalism Forum, March 29, 1923; Making the Prospect Read the Advertisement, Adv. Club of Columbus, Chamber of Commerce, March 12, 1923; Making the Advertisement's Message Stick, Adv. Club of Columbus, Chamber of Commerce, March 26, 1923;

Making the Prospect "Come Across," Adv. Club of Columbus, Chamber of Commerce, April 9, 1923; Psychology in Business, staff of Columbus Union Oilcloth Company, January 24, 1923; Employment Psychology, Exchange Club, May 5, 1923; Psychology and Personnel, Student Branch of American Ceramic Society, February 6, 1923; Psychology and Employment, Independent Order of Bnai Brith, April 23, 1923; Psychology in Business, Ohio State University Psychology Club, April 26, 1923; Psychology and Business, Columbus Rotary Club, May 29, 1923.

Henry H. Goddard—Thirty-four addresses were given during the year. Some of the more important were as follow:

August 14-18, Greeley, Colo.—Lecture to Summer School.

October 16, Detroit—Lecture to American Prison Association.

October 19-20, Indianapolis, Ind.—Lecture to Indiana State Teachers.

December 14, Columbus, O.—Practitioners' Medical Society.

January 2, Newark, N. J.—Lecture to Teachers' Association.

January 16, Cleveland, O.—Lecture to Teachers' Association.

March 2, Cleveland, O.—Annual Meeting American School Hygiene Association.

April 24, East Chicago—Lecture to Teachers' Association and Chamber of Commerce (two lectures).

May 11-12, Evansville, Indiana Community Welfare Association, Evansville College, Kiwanis Club (five lectures).

Sidney L. Pressey—Recent Research in Education of Importance to Teachers, Teachers' Institute, Piqua, O., August, 1922; "Individual Differences and Tests of Intelligence," and the "Use of Tests of Intelligence in a School Survey," Teachers' Institute, Warren, Pennsylvania, November, 1922; Use of Test Results, Livingston Avenue Teachers' Meetings, December, 1922; Methods of Measuring the Reliability of Intelligence Tests Rating, Section Q. A. A. A. S., Cambridge, December, 1922; Individual Differences and Tests of Intelligence, Columbus Institute for Principals and Supervisors, February, 1922; Fundamental Concepts in Use of Tests in the School Subjects, Columbus Institute for Principals and Supervisors, March, 1922; Tests in Capitalization, Punctuation, and Grammar, Educational Conference, April, 1923.

Laura M. Chassell—Report on the Sectioning of Students on the Basis of Intelligence at the Ohio State University, and Demonstration of the Stanford Revision of the Binet-Simon Intelligence Scale, Teachers' College, Columbia University, New York City, August, 1922; Religious Ideas of the Members of a Seminar in Religious Problems, Discussion Group on Religion and Modern Education, Columbia University, August, 1922; Comparison of Two Statistical Procedures for the Treatment of Fragmentary Data, Joint Session of the Section of Mental Measurements of the American Psychological Association With Section I of the American Association for the Advancement of Science, Boston, Mass., December 28, 1922; The Place of a Seminar in Religious Problems in the Life of a University, Seminar in Religious Problems, Ohio State University, Columbus, O., November 23, 1922.

Luella C. Pressey—Practical Problems in Use of Tests, Teachers' Institute, Piqua, O., August, 1922; Demonstration of Testing, Parent-Teachers' Association Meeting, October, 1922, Columbus, O.; Demonstration of Tests for Use in the Lower Grades, Central Ohio Teachers' Association, Columbus, November, 1922; Interest Tests for Young Children, American Psychological Association, Cambridge, December, 1922; "Demonstration of Tests for Use of Young Children" and "Tests in the Understanding of American History," Third Annual Educational Conference, Columbus, April, 1923.

Paul R. Farnsworth—Rhythm, Junior Open Court, February 15, 1923.

Oliver L. Reiser—Bearing of Evolution on Psychology, Alpha Psi Delta, December 7, 1922; Logic and Psychology, Junior Open Court, March 15, 1923; Primitive Thought, Psychology Club, April 4, 1923; Behaviorism, Philosophy Club, December 13, 1922.

SCIENTIFIC MEETINGS ATTENDED

During the year, members of the Department attended a number of educational and scientific meetings, the most important being as follows:

American Psychological Association, Cambridge, December 26-29, 1922.

American Association for the Advancement of Sciences, Cambridge, December 26-29, 1922.

The Ohio Academy of Science, Oberlin, O., March 30-31.

Western Branch of American Mathematical Association, Chicago, October, 1923.

Central Ohio Teachers' Association, Columbus, O.

SPECIAL REPORT FROM THE DIVISION OF ABNORMAL AND
CLINICAL PSYCHOLOGY

H. H. GODDARD

This report covers the Autumn, Winter, and Spring Quarters. During that time we have examined 730 cases, records of whom we now have in this office.

To take the most important group first—we have 132 cases of children, who have been brought to us by parents, either on their own initiative, or recommended by the children's teachers, and who have been given a very complete and thorough mental examination, on the basis of which advice and recommendations have been given to the parents. While we have not been able to follow up this work systematically, and it is many cases too soon, yet, to know what the results of our recommendations may be, we do know that in a great many cases a very distinct help has been given. Parents have been uniformly appreciative of our help, and the numbers brought to us steadily increased as the months went by. These cases came from various parts of the state, and a few from outside the state.

Two hundred and thirty-five children were examined at the State School for the Deaf. These were cases that were troubling their teachers, who did not know how much of the difficulties they were having, were to be attributed to the deafness, and how much to inherent weak mentality. As a result of our examination, we were able to give them very distinct help in answering this question.

A group of 342 children were examined at the Ninth Avenue School.

A class of 13 were examined at the Urbana University School, and careful diagnosis made of the children's general ability, as well as special capacity in different lines.

Lastly, Ohio State University students have come to us for help, either of their own accord, or recommended by some of the authorities. This is a phase of the work of which I wish to speak briefly. The cases are few that have come to us this year, but in some of those cases, at least, we have been of very great help in removing phobias, and enabling the students to go on with their work unhampered by these disturbing conditions. This is the kind of psychological clinical work that brings enormous returns to the individual's health, and is of great practical value. That there is an immense amount of it to be done, is indicated in many ways. The number of young people in attendance at the University, who might be classed as incipient neurasthenics or psychasthenics, is probably so large as to be startling, if we knew the figures. Most of those cases can be more or less completely cured, if the matter can be brought to light. This Clinic aspires to the position of helpfulness in these cases. As it becomes known that we are willing and more or less able to relieve these conditions, I believe the demand will be considerable.

The one consideration that makes one almost hesitate to undertake this line of work is the vast amount of time that may be consumed on these cases. Interviews are from one to three hours as a rule, and the number of interviews anywhere from one to perhaps 20. It is easy to see where this leads, especially if one accepts the estimates of one man who has had years of experience in another university, that there would be at least 500 among the young women alone in this University.

But what more important work can be done than to help save these young people from the "mind-twists," which are not only interfering with their University work, but may mark them as psychopathic for life, if not removed. I leave this as one of the problems of the future.

Perhaps this is the proper place to bring up another matter, closely related to this work.

Clinical work in Psychology cannot be solely psychological. At least, it cannot ignore nor neglect physical conditions. Whether all abnormal mental phenomena have an actual physical basis may be a matter of opinion. But that many do have such a basis, is certain. I have heard preachers say that it is useless to talk to a man about the salvation of his soul, when he is starving for lack of food. You must first feed him and then talk salvation. It is equally a waste of time to try to straighten out a mind-twist, by argument and explanation or psycho-analysis or any other procedure along psychological lines, when said mental-twist is definitely due to the adrenal gland pouring too much adrenalin into the system. It has for many years been my ambition to have a Clinic that would thoroughly examine its patients on all lines known to Science. We almost had it at Vineland; I was promised it at the Bureau of Juvenile Research, but it is a difficult matter under conditions as they existed in those two institutions. But my hope has again revived, as I realize that here at the University there must be all the facilities needed for such a procedure. We have the Medical School with all its phases. We have Chemical and Biological Departments and Sociological, which could undoubtedly render service of the finest kind, in this direction.

The thorough Clinical examination of problem cases should involve thorough neurological study, endocrinology, metabolism, heredity, social environment, educational experience, and etc. This is not the time to go into detail, but this much will indicate what I have in mind. Of course I should like to be able to send a child to the proper person in all these different lines, and have their report come in here to be correlated with all the others, which would result in a final psychological diagnosis. If, however, it is not feasible in just that form, and it becomes necessary to have what might be called a University Clinic, of which the psychological division of Clinical Psychology would simply be co-ordinate with the rest, I am entirely agreeable to that, or to any other plan that may be evolved. The main thing is that the work should be done and results obtained.

DEPARTMENT OF SCHOOL ADMINISTRATION

C. C. McCracken

The following is the report of the Department of School Administration for the year 1922-1923:

I—NUMBER OF STUDENTS RECEIVING THE MASTER'S DEGREE

Degrees conferred during the year..... 10

Degrees conferred, June, 1923..... 13

Total 23

The above designates credit hours except in the Summer Quarter where clock hours are indicated.

II—LIST OF PUBLICATIONS

C. C. McCracken—"A Complete Survey of Schools," *School Life*, January, 1923. "Logan County and Bellefontaine Ohio School Survey," 72 pp., April, 1923.

ACCEPTED FOR PUBLICATION

"The Advantages of Teaching." *Bulletin*, Dayton School Masters' Club.

PUBLICATIONS

E. J. Ashbaugh—"Some Essentials in School Supervision." *Journal of Educational Research*. Vol. 6, No. 2, September, 1922.

W. G. Reeder—"Some Urgent Problems of School Finance in Ohio," the *Ohio Teacher*, December, 1922, pp. 151-154. "State Control of Private and Parochial Schools," *School and Society*, Vol. XVII, pp. 426-428. "The Intelligence of North Dakota High-school Students," Report of North Dakota Mental Hygiene Survey, the National Committee on Mental Hygiene, 370 Seventh Avenue. New York City. "Book Review, New York Rural-school Survey (Finances)," by Harlan Updegraff; *Journal of Educational Research*, Vol. VII, No. 2, pp. 158-159. "Book Review, Supervision and the Improvement of Teaching," by W. H. Burton; *Journal of Educational Research*, Vol. VII, No. 3, p. 252.

ACCEPTED FOR PUBLICATION

"Selecting the Chief State School Official," the *American School Board Journal*, June, 1923. "The Salary of the Chief State School Official," the *American School Board Journal*, July or August, 1923.

III—ADDRESSES AND LECTURES

C. C. McCracken—Fifteen addresses before various audiences, including a lecture before the Ohio College Association, April, 1923, upon the following topic: "The Relation Between State Departments of Education and Professional Schools (Colleges) Other Than Teacher-training Institutions."

E. J. Ashbaugh—Fifteen meetings were addressed, including the following: Ohio Soc. College Teachers of Education, March, 1923; Conference of Secondary Schools Affiliated, Chicago University, May 10, 1923.

W. G. Reeder—Addresses for high schools of North Dakota while engaged on the Mental Hygiene Survey of that state, September, 1922; Commencement at Lucasville, May 24, 1923.

IV—SCIENTIFIC MEETINGS ATTENDED

The members of the Department attended various educational meetings, the most important being as follows:

Central Ohio Teachers' Association, November, 1922.

Ohio State Teachers' Association, Columbus, December, 1922.

Ohio Educational Conference, Ohio State University, April 5-7, 1922.

Ohio College Association, March 30-31, 1923.

The Ohio Society of College Teachers of Education, March 30-31, 1923.

National Society of College Teachers of Education, Cleveland, February, 1923.

National Educational Association, Department of Superintendence, Cleveland, Feb., 1923.

Educational Research Association, Cleveland, February, 1923.

National Society for the Study of Education, February, 1923.

Conference of Secondary Schools Affiliated at University of Chicago, May, 1923.

V—RESEARCH WORK IN PROGRESS

C. C. McCracken—Assisting in the Survey of Auglaize County; A Study of the Four Gospels as a Teacher's Manual of Method and Discipline.

SUBMITTED FOR PUBLICATION

"Teaching College Freshmen to Study."

E. J. Ashbaugh—"Evaluation of Difficulty of Basic Spelling Vocabulary in Junior High School," "Critical Comparison of First-grade Spelling Vocabulary," "Survey of Franklin County Schools."

W. G. Reeder—"A High-school Spelling Scale," "Standards for and the Technique Employed in Master's Theses," "Various Researches in the Field of School Finance."

SUBMITTED FOR PUBLICATION

"The Chief State School Official in the United States," "High School Speller," "The Two Thousand Spelling Demons in High Schools," "Reading Proclivities of the Various States."

Dr. Buckingham and Mr. P. R. Stevenson of the Bureau of Educational Research have been very generous in their assistance rendered to the Department in teaching certain courses and in assisting in both minor and major research. The Department regrets the loss of Dr. Ashbaugh who will become assistant director of the Bureau of Educational Research next year, but is happy over the fact that he will be very intimately associated with the advanced students enrolling in this Department. Furthermore, the Department is very happy in the securing of Dr. J. C. Morrison of the State Department of Education, Albany, New York, as a regular professor in the Department.

The Department has been better satisfied with the work of the men in absentia but has not been able to give these men the attention which they feel they deserve. Schools are closed during the Summer Quarter and it is absolutely essential that graduate students working in Seminar during the summer bring with them the results of studies carried on during the year if they are to be admitted to Seminar courses. The Department re-organized all of its courses at the beginning of the Quarter-system Plan. We find that the new alignment of work is proving satisfactory both to the students and to the members of the Department for it is now possible to take selected topics out of administration in particular fields and follow these through regardless of arbitrary divisions of the public-school system. Practically no requests were submitted for new courses for the year 1923-1924 as the Department wishes to give the present offering a thorough trial before making changes. By the year 1924-1925 the Department will undoubtedly have certain definite requests for additional courses for further differentiation in certain large fields such as School Finance, the Teaching Corps, etc.

A study of enrollment of the Summer Quarter 1922 indicates an increase of 65 per cent in the enrollment of graduate students majoring in the Department of School Administration. Furthermore, the enrollment in the second half of the Summer Quarter 1922 was approximately 40 per cent of that of the first term. This was a larger percentage than was anticipated and the Department has attempted to prepare for the larger enrollments of the second half of the Summer Quarter. If, however, the increase should be as unprecedented as that of last summer, the Department will be taxed to the limit in order to care for the students who will enroll for the Summer Quarter 1923. The plan of the Department to have each member of the teaching force on duty during the Summer Quarter and off for at least one other quarter during the year has worked satisfactorily, except for the fact that it is a little difficult to plan a vacation during the regular school year. Taking one quarter off seems, however, to be an excellent plan in that it gives the members of the instructional force an opportunity for study and for physical rehabilitation.

REPORT OF THE BUREAU OF EDUCATIONAL RESEARCH

B. R. BUCKINGHAM

GENERAL STATEMENT

The amount of mail matter handled is a rough index of the volume of business. There were 13,330 outgoing letters this year. These do not include circular letters. Last year the corresponding figure was 4475. Incoming first-class matter this year was approximately 8500 letters; last year about

3000. Circular letters this year amounted to about 17,500. Thus the total amount of first-class mail matter handled by the Bureau was about 40,000 pieces. Mailing the Educational Research Bulletin meant the sending out of about 120,000 pieces of second-class matter. Of third-class matter—tests, sample packages of bulletins, etc.—the Bureau has sent out a large but indefinite number of pieces. On the other hand, a great deal of mail matter other than first-class has been received—probably as many as 5000 pieces. This includes the receipt of more than 300 periodicals.

Under this heading attention should be called to the facilities which the Bureau offers for graduate study. Its library, its equipment, and its staff are placed at the service of many students and faculty members.

The connections of the Bureau with the state are numerous, and space does not permit even the enumeration of all of them. One of our new points of contact this year has been the development of a system of surveys. Further details on this matter will be given below. The services of the Bureau to other departments of the College and University have been carried forward to a corresponding degree during the past year. The Director assisted the College of Agriculture in formulating final examinations in accordance with the modern technique of test making. Doctor Stevenson co-operated in two instances with the Latin Department in the directing of the work of graduate students. These are given as instances of co-operation with groups of people outside the College of Education. Within the College, of course, the opportunities for service have been countless. Last summer we provided problems for a large number of graduate students—perhaps as many as 50. Doctor Stevenson alone conferred with 74 students who were sent to us to discuss and secure problems for study. Many of the students who selected projects suggested by the Bureau have kept up correspondence with the Bureau staff ever since they began the work.

ADDRESSES AND WRITINGS

The Director has delivered about 35 formal addresses during the course of the year. About half of these were in Ohio. Between April 8 and May 9 he delivered 17 addresses, most of which were on the Pacific Coast. He attended the annual meeting of the Pacific Coast Research Association, where he was the principal speaker. He also served in this capacity at the annual convention of Eastern Washington, held at Pullman.

Doctor Stevenson has delivered 17 addresses, all but one of which were in Ohio. He addressed the National Council of Geography Teachers at Ann Arbor on "Recent Developments in Geography Tests." The most important of his address to Ohio people were on the instructional uses which should be made of the results of testing.

Miss Doherty addressed the American Library Association at its annual meeting in Chicago.

During the year the Director has written four articles, 29 editorials, and four book reviews. In addition to these, he has written a large number of communications and notes either for the Journal of Educational Research or for the Educational Research Bulletin. Doctor Stevenson has written seven articles, three book reviews, and a number of unsigned pieces for the Educational Research Bulletin. His articles have appeared in the American School Board Journal and in the periodicals edited at Ohio State University. Miss MacLatchy has written six editorials for the Bulletin, and a very great number

of readings, notes, and communications. Miss Doherty contributed to the Bulletin, in addition to unsigned material, four bibliographies, two of which were reprinted in other periodicals. Mr. D. H. Stevenson, who is closely associated with the Bureau, wrote four articles for the Bulletin and a book review for the Journal of Educational Research. Mr. W. W. Coxe wrote two articles for the Bulletin, an article for the Journal of Educational Research, and a book review for the same publication. Both Mr. Coxe and Mr. Stevenson wrote a large number of readings and unsigned notes for the Bulletin.

RESEARCH PROJECTS

The projects of the Bureau are too numerous to be reported in detail in a communication of the present scope. Little more than a statement of the projects can be attempted.

1. Kindergarten project. Nine cities are co-operating as follows: Athens, Cleve'and Heights, Delaware, Elyria, Fremont, Hamilton, Lakewood, Lockland, and Portsmouth. Returns have been received from 9528 pupils. The following purposes are in mind in this project: (1) to determine whether the kindergarten affects school progress, (2) to determine, if possible, the optimum length of attendance upon kindergarten, and (3) to determine whether the kindergarten is of more benefit to certain groups than to others. Miss Josephine MacLatchy is in direct charge of this project.

2. Supervised study. Sixteen cities are co-operating, among which are Cincinnati, Dayton, Hamilton, and Middletown. The method is essentially that of the controlled experiment—the pairing of equal-ability classes, one taught by means of supervised study and the other without such provision. Intelligence tests and standardized subject-matter tests provide the basis of measurement. Mr. C. O. Edington is in direct charge of the project, and has personally visited the co-operating schools.

3. Departmental teaching. This project is being pursued at Cleveland. The Murray Hill School has been turned over to the Bureau for this purpose. Ten classes are involved in the experiment. Five have been taught departmentally during the second semester of the current year, and five have been taught according to the grade plan. Next semester the type of organization will be reversed. Mr. A. W. Stewart is especially interested in this project with a view to utilizing it ultimately for thesis purposes.

4. Class size. This is one of the projects which we set up early in the fall. The disorganization, however, caused by the participation of the Director and the Bureau staff in the investigation of state-supported institutions compelled us to alter our plans. This project was practically suspended. About 30 cities indicated an interest in the problem. Many of these would have co-operated if the Bureau had been in a position to provide leadership. It is our intention to carry this project over until next year. Only two cities, Marietta and Wauseon, contributed data on this project during the past year.

5. Types of teaching. This project involves a detailed analysis of the teaching process. The work was done entirely at Columbus during the Spring Quarter. Sixteen of the most capable elementary teachers constituted the group from which case studies of teaching were derived. The project involved the organization of these teachers into a class which recited twice a week. The members of the class planned and demonstrated lessons under close ob-

servation. About 80 full reports, including stenographic notes, were taken of these demonstrations. Mr. D. H. Stevenson is in direct charge of this project.

6. Surveys. Two surveys have been conducted under the direction of College of Education and of graduate students.

One of the surveys was at Mansfield. It included an investigation of the high-school curriculum and the general building needs of the city. The other survey was conducted at Marietta and involved the present and future building needs, with a treatment of the question of the ability of the city to finance the necessary program.

Dr. P. R. Stevenson, and with the co-operation of faculty members in the

In each case these surveys were conducted upon the invitation of the respective Boards of Education. The expenses of the surveys were borne by the local communities. Attention is called to the opportunity which these surveys offered to graduate students to secure a valuable type of field experience. In addition to faculty members, three graduate students were used in the Mansfield survey and five in the Marietta survey (two of whom also served at Mansfield). The survey reports to the Boards of Education are practically completed. It is recommended that at least one of these surveys be published as indicating the type of work the Bureau is prepared to do.

7. Influence of Latin on English spelling. This is one of our major projects pursued in co-operation with the American Classical League. It consists of two lines of endeavor: (1) a general survey intended to show the effect of *Latin as it is now taught* on English spelling, and (2) a controlled experiment designed to show the extent to which Latin may be so taught as to influence favorably the spelling of English words. In general, the survey involved nearly 100 schools and approximately 7000 pupils. The controlled experiment was carried on at Columbus, Ohio, and at Rochester, New York. A total of about 26,000 pupils participated. These pupils were approximately equally divided between the two cities. Mr. W. W. Coxe is in charge of the details of this investigation and will utilize the material for a Doctor's dissertation.

8. State-wide testing in Place Geography. These tests were developed last year and the project this year has been one of standardization. Last November over 100 cities of the state co-operated in this standardization. Approximately 55,000 pupils took the tests. A more detailed report than is here possible concerning this project may be found in the Educational Research Bulletin for April 18, 1923.

9. Information-problem Test in Geography. This test has been devised during the past year. A preliminary standardization has been carried through on the basis of about 3000 cases. The test is being received with considerable interest by teachers because it measures something besides mere facts; because, in other words, it is an attempt to offer a test which will stimulate teaching along modern lines.

10. Latin tests. Two Latin tests have been developed, one a vocabulary test and the other a derivative test. The first was given for standardization purposes to about 9000 pupils last May. The second has been standardized in a preliminary way and will be ready for final standardization in September.

11. A reading test in Arithmetic Problems. This test has been devised to determine the pupils' ability to read and comprehend arithmetic problems. An experimental edition has been given to several classes and will be further standardized in the fall.

12. Analysis of History Vocabulary. This investigation is being carried on by Mr. A. L. Ward. Its purpose is to determine the number and frequency of words used in history texts.

13. Rural Publicity. This is an investigation of successful and unsuccessful types of publicity used in rural communities. Mr. R. C. Peck, a graduate student, is working on this problem.

14. Analysis of Difficulties and Remedial Instruction in Arithmetic. This project is being carried on by Mr. O. C. France at the Highland Avenue Junior High School of Columbus. The work consists in (1) giving tests at the beginning and at the close of the semester, and (2) the tabulation of difficulties for the individual pupils, and (3) remedial instruction.

15. Investigation of Objectives for Teaching Latin. This investigation was carried on in co-operation with the American Classical League. Mr. R. H. Helle and Miss Laura G. Pound, graduate students in the Department of Latin, are using the data from this project in connection with their Master's theses. The study includes an analysis of a large number of teachers' examination papers, and also the results obtained from teacher ratings of 19 objectives as outlined by the American Classical League.

SPECIFIC ACTIVITIES IN CONNECTION WITH OUTSIDE AGENCIES

Reference has already been made to the fact that the Bureau has co-operated with other divisions of the University and with the public schools in various matters. Attention has also been called to the work the Bureau has been doing in co-operation with the American Classical League. In this section reference will be made to instances in which the Bureau has done work not so much in co-operation with other agencies as for their benefit.

1. The Classification Committee. The Director of the Bureau is chairman of the Classification Committee appointed by State Superintendent Riegel. This committee has met three or four times during the course of the year and has done a great deal of work in obtaining data from the schools of the state as to the existence and nature of administrative measures for providing for individual differences among pupils. A preliminary report is now being written.

2. Test Bibliography. At the request of the Federal Bureau of Education, this Bureau has undertaken the preparation of an extensive test bibliography. About 6000 cards have been prepared in this project, and it is expected that the work will be completed within the next few weeks.

3. List of Subject Headings. For the Commission on the Co-ordination of Research Agencies of the National Education Association the Bureau has been engaged in formulating an alphabetically arranged list of subject headings designed to cover the field of education and to facilitate the indexing of educational writings. Such a list is greatly needed in view of the fact that the existing lists now being used by librarians are entirely inadequate with

reference to educational headings. This work has been completed in tentative form and mimeographed edition consisting of about 170 pages is ready to be mailed to about 175 librarians and educational experts for criticism.

4. Investigation of State-supported Educational Institutions. Last October the Director was appointed the representative of Ohio State University on a committee to investigate the tax-supported higher educational institutions. He was made chairman of this committee, which devoted 11 weeks to the work. During this period, on account of the necessity of securing clerical and stenographic service, the resources of the Bureau were heavily drawn upon. Because of this fact it has been impossible in some instances to carry forward the work of the Bureau as far as would otherwise have been expected.

THE THIRD ANNUAL EDUCATIONAL CONFERENCE

It is difficult to estimate the amount of time and energy devoted by the Bureau staff to the Educational Conference. The Proceedings of the Second Annual Conference—a closely printed volume of 372 pages—was edited and piloted through the press by the Bureau. Preparations for the Third Annual Conference were carried out very largely through the agency of the Bureau. The Director was a member of the conference committee and manager of the conference. Doctor Stevenson was secretary of the committee and conducted the greater part of the correspondence with the speakers. He also was engaged in the publicity work involving the preparation of much written material. During the conference the textbook exhibit was conducted by the reference division of the Bureau. After the meeting was over the conference report was prepared in the Bureau under the direction of Dr. Stevenson and the editing of the addresses and other material for the proceedings began. There is no disposition on the part of the members of the Bureau staff to avoid this work in connection with the Conference. It is only fair, however, to point out that it consumes a greater amount of time and energy than is likely to be believed unless a close scrutiny of the different activities is made.

REFERENCE DIVISION

Our reference division has been particularly active this year because we had for the first time the services of Miss Doherty. Her unfortunate illness and loss to the Bureau and the University a few weeks ago will make it difficult for us to secure a competent successor—at least at the salary we have been paying. It was in this division that the preparation of the test bibliography for the Federal Bureau and the list of subject headings for the N. E. A. were made.

This division was particularly active in securing books, periodicals, and monographs for our library. At present the Bureau is regularly receiving 313 periodicals, and has on its shelves about 3750 books and 4000 bulletins. Up to the time when Miss Doherty ceased active participation in the work of the Bureau we were receiving an average of about 50 volumes (including those unbound) per week.

A great deal of progress was made in the cataloguing and indexing of these materials. About 21,000 cards were either typed or written in connection with this kind of work.

The most important work of the division probably centers around the handling of reference problems. These are questions submitted by school people or by faculty members concerning educational matters. A list of the different problems would carry this report to too great length. One or two types will illustrate. One correspondent writes that he is reorganizing his school on the six-six plan. He asks for assistance in a number of different respects; such as a course in correlated mathematics, data on community civics, and on extra curricular activities. Another writes on the question of high-school dramatics, and wishes in particular for recommendations as to appropriate plays. Another asks for help in studying the problem of the teaching of silent reading. Still another asks for plans and data relative to educational administration buildings. These instances have been taken from the top of a file and they indicate quite as well as more carefully selected instances might indicate the wide range of problems submitted.

Frequently the problems handled by the reference division eventuate in bibliographies. Some of these have been published in the Bulletin—of these at least two were reprinted in other bulletins. One was published in the Journal of Geography. Others were mimeographed and distributed at the textbook exhibit. Still others have been no more widely distributed than to the persons who proposed the problems on which they bear.

TEACHING

It is perhaps not realized that the Bureau affords considerable teaching service—nearly the equivalent of a full-time teaching member of the faculty. The Director taught two courses last summer, and Dr. Stevenson taught one. These courses were well attended. In addition to this, the Director taught a course in statistics and another course in school administration during the fall term. During the winter term he taught a course in school administration; and in the spring term, one in principles and practice. Last summer Dr. Stevenson had conference teaching with five graduate students who were enrolled in a course in minor problems. During the regular year he has taught in a similar way for the benefit of 11 other students. In addition to this, the Director has spent a great deal of time in conference with five graduate students, most of whom will pursue their work for the doctorate.

JOURNAL OF EDUCATIONAL RESEARCH

While technically the Journal of Educational Research is not a Bureau enterprise, it nevertheless enters a great deal into the thinking both of the Director and the Bureau Staff. It may not therefore be amiss to speak of it in this report. Two volumes of the Journal were issued this year, each comprising about 500 pages. The Journal has continued to win the cordial commendation of research workers. Its circulation is growing slowly but steadily. Although the Director's editorial work is mostly done outside of office hours, he ventures to conduct some of the correspondence with the aid of the Bureau staff. He has also been assisted in the editorial work by Miss MacLachy. He feels that the University undoubtedly derives some benefit from the Journal. This fact is apparently realized and the limited use of the facilities of the Bureau in support of the Journal is evidently not regarded as improper.

Twenty issues of this periodical have been published. Each issue has been 16 pages in size, the front page being used as a cover.

Owing to its larger size this year the Bulletin has been able to serve the school people of the state more extensively. Of its 320 pages, 100 have been devoted to short research articles. These articles have been written for the most part by Bureau members and by school people of the state. An informal attempt has been made to gather material from the school people telling of actual research activities. This information has been incorporated in the department called "On the Firing Line." To this department 48 pages have been devoted. If the Bulletin is further enlarged during the coming year, it is planned to make a definite attempt to increase this department.

One of the departments of the Bureau is called "Readings." It includes very brief reviews of magazine articles, books, and pamphlets. It aims to appraise them and thus to guide the readers of the Bulletin in their study. In these readings an attempt is made to include the most significant writings on educational research. In preparation of these readings, the Editorial Department has been assisted by Messrs. D. H. Stevenson and W. W. Cox, and by Miss Grace Christy. During the year about 34 pages of the Bulletin have been devoted to readings and the material has been set in 8-point type.

Other departments have been as follows: Report of the Work of the Bureau, 13 pages; College of Education Notes, 8 pages; New Buildings for Ohio Schools, 6 pages; Bibliographies, 7 pages; Test Materials, 5 pages; Notes on the Educational Conference (including program), 31 pages; Miscellaneous, 40 pages.

The circulation of the Bulletin has steadily increased during the year until, at the present time, the complete issue of 6000 is in circulation. We have difficulty now in retaining a sufficient number in the files of the Bureau for use in supplying the continued requests for back numbers.

Throughout the year Miss Christy has kept a record of comments regarding the Bulletin. We have chosen from among these comments—which are literally too numerous to mention—a few as indicative of the reception which the Bulletin has received during the past year. The following come from outside the state:

J. L. Stenquist, Director of Research, Baltimore, Maryland, writes: "This is just a word of greeting to congratulate you on the steady and apparently healthy growth of your Educational Research Bulletin. I think it is the best of its kind published."

Dr. John K. Norton, Director of Research, N. E. A., Washington, D. C., writes: "The Educational Research Bulletin for January 24, 1923, has some excellent material. The suggestions for an educational bookshelf are especially good. We use it frequently in answering inquiries."

Dr. Harold C. Bingham, Assistant Director Research Information Service, Washington, D. C., writes: "A copy of the Educational Research Bulletin has recently come to this office and we find in it a number of items of significance for the Research Information Service. We wish to inquire about the conditions which are necessary to have the Research Information Service placed on your subscription list."

Miss Mary Pratt, Indiana University, Bloomington, Indiana, writes: "We should like to have you place our name on your mailing list for two copies

of the Educational Research Bulletin. We find this publication exceedingly valuable in preparing our package libraries."

Miss Hazel B. Warren, Chief of Document Division, Kansas City Public Library, writes: "We have received a number of your Educational Research Bulletins, and find some very valuable material in it for use in our special teachers' library."

Dr. H. A. Brown, President State Normal School, Oshkosh, Wisconsin, writes: "I have seen several copies of your Educational Research Bulletin. Would it be possible for me to purchase a complete set of these from the first one to the present number. I find much of value in these little bulletins."

The following are a few comments from the school people of Ohio:

Frank Appel, Superintendent of Schools, Portsmouth, writes: "This bulletin has been coming to me regularly and I have enjoyed it very much and found it exceedingly helpful not only to me personally but to my supervisors and their schools, and it has not cost me a cent. So valuable do we consider it that we shall be glad to pay for eight subscriptions which may be sent to my address."

Carroll R. Reed, Akron, writes: "I just wanted to say also that this publication is one of the most interesting documents which comes to our office. It is read by nearly everybody on the supervisory force. Keep the good work going."

E. S. Freed, Parmelee Public School, Youngstown, writes: "Our school is receiving your Educational Research Bulletins monthly and we find them very valuable because they mean a new perspective, new problems, and new life and hope to us. We appreciate your sending them to us, and look forward with much interest to their coming. . . ."

Quotations from the Bulletin have frequently been made in other publications. We do not know of all these instances because we have made no effort to locate them. The following facts, however, have come to our notice. Doctor Stevenson's articles on "Building Programs" were copied by the American School Board Journal. The article by Superintendent Davis was copied by *Techne*. Dr. Stevenson's note, "Class Size," was reprinted by School and Home. Doctor Buckingham's editorial on "German in the High School" was quoted by a number of periodicals. Mr. Coxe's article on "Causes of Failure in High School" was quoted in the Columbus Citizen. The Bulletin has likewise been quoted in issues of the Normal School Instructor and Primary Plants and in the American Educational Digest.

It is recommended in connection with the Bulletin that the size of each issue be increased next year to 24 pages and that the number of issues be somewhat decreased, say to 18 or 19, or however it works out when an issue is published fortnightly for nine months. The nine-month basis is suggested rather than the present ten-month basis because under the present arrangements the last number of the Bulletin in June and the first number of it in September are likely to arrive at the schools while they are closed. It is further suggested that a monograph series be established in connection with the Bulletin, each issue to approximate in size the regular issues of the Bulletin—say not more than 32 pages; and that provision be made for three or four issues per year. The Bureau is now reaching the point where the product of some of its research is coming through in such form that it should be

printed in something more extensive than a magazine article. We shall need a bulletin series before long.

The Bureau has perhaps not done all which might have been expected of it during the past year, but when the distractions to which it has been subjected are taken into account perhaps its accomplishments have not been insignificant. With the enlarged personnel which the Bureau will have under the new budget and especially with the greater resources which it will have for student labor, more can be expected in the ensuing biennium. The need for a large amount of cheap clerical labor and the need for a system of research assistantships are especially outstanding.

UNIVERSITY INTELLIGENCE TESTS

HAROLD E. BURTT, Secretary

GEORGE F. ARPS, Chairman

The tests from their beginning in 1919 until the end of the academic year 1922, have been fully reported in the Ohio State University Bulletin, Volume 27, Number 5. The following is a supplement to the above for the academic year 1922-1923. Frequent reference will be made to the above report.

REVISION OF THE TESTS

Further revision was made of the tests in the light of the results of Table XVI. From this table it seemed obvious that certain of the individual tests were more differential of academic success than others, and that one or two were of very little use as far as prediction was concerned. On the basis of these facts, Test 6 (Reasoning) was dropped entirely. This test seemed to give a bimodal distribution depending upon whether the subject made a diagram for the problems or tried to do them in purely mental terms. Tests 3, 4, and 5, were changed substantially in form although the fundamental facts measured were not altered greatly. In Tests 3 and 4, it seemed desirable to avoid the possibility of the subject obtaining 50 per cent correct answers by chance, and consequent necessity of penalizing accordingly. This penalizing procedure actually reduces the number of items of test score by one-half. To avoid this fact, Test 3, (synonym-antonym) was put in the following form:

Good is the *opposite* of: excellent, cheerful, bad, wrong, true

Little is the *same* as: small, coarse, prodigious, feeble, immense

in which the subject underlines the correct alternative. The chance of a correct answer as a guess is slight.

Test 4 (disarranged sentences) was likewise recast in the following form:

eats cow hears a grass
horses wings have tails all

The subject crosses out the irrelevant word in the sentence. In both of these tests the fundamental mental process was substantially the same as heretofore, but the actual score was less dependent upon chance.

Test 5 (number series completion) was put into the following form:

(1)	2	4	6	7	8	10
(2)	32	20	16	8	4	2

The subject crosses out the number which does not belong in the series. A study made at Yale seemed to indicate that this method of administering the number series completion test was more effective than the other. Moreover, this test was enlarged to comprise 40 items instead of 10, and, hence became much more "sensitive."

These three new tests were standardized on about 85 students, to determine the difficulty of individual test items, and to determine proper time limits. In this way it was possible to arrange two forms for the examination of approximately equal difficulty.

The other tests in the blanks were revised slightly. This revision was made by selecting 62 students of high scholarship, and 48 students of low scholarship on the basis of their point-hour ratios. The former had a point-hour ratio of 120 or greater and the latter 100 or less. Separate test items were then tabulated for these two groups to determine the extent to which separate items were differential of the two groups. On this basis, a few outstanding non-differential items were changed.

The complete test in its present form involves 230 items as compared with 215 items of the preceding year's tests. The two forms of the test are numbered Forms 3 and 4. The raw scores are as usual converted into freshmen percentiles.

THE NUMBER OF STUDENTS TESTED

During the summer the earlier test (Forms 1 and 2) was given to 714 students. The revision (Forms 3 and 4) was used during the autumn, winter, and spring of the present year. The following numbers of students were tested: Autumn 2445, Winter 196, Spring 129. The comparison of the various University units can best be made for the Autumn Quarter as the results are at that time tabulated to obtain percentile scores. Inasmuch as the majority of the students take the test during this quarter, no substantial change would be introduced by including the other two quarters.

The results for the Autumn Quarter are given in Table XIX which is similar in form to Table 17 of the University Bulletin, above mentioned, and gives the distribution of various University units in the five intelligence classes. Class 1 indicates high intelligence, and Class 5, low. The first-year students in the various colleges are arranged in order of magnitude of their average scores as indicated in the last column. Too much significance should not be attached to figures for colleges enrolling only a small number of students, such as Dentistry, Applied Optics, Medicine, and Veterinary Medicine. The larger colleges maintain the same relative position as in previous years with Engineering students ranking the highest, followed by Arts, Education, and Agriculture, with the last two very similar.

The results for upperclassmen show that third- and fourth-year students are somewhat superior to second year, and that Graduates are distinctly superior to any of these. The absence of Class 5 students in the Graduate School is particularly noticeable.

COMPARISON OF UNIVERSITY UNITS—AUTUMN, 1922

College	FIRST-YEAR STUDENTS								
	Total Students	High Score	Low Score	% in Class 1	% in Class 2	% in Class 3	% in Class 4	% in Class 5	Median
Law	20	169	80	15.0	50.0	30.0	5.0	0	133.0
Dentistry	7	137	77	0	28.6	42.8	28.6	0	118.5
Engineering	271	186	30	5.9	24.7	51.3	15.5	2.6	117.5
Applied Optics	10	131	16	0	10.0	70.0	10.0	10.0	112.0
Pharmacy	85	182	31	5.9	20.0	43.5	25.9	4.7	107.5
Arts	976	199	28	5.9	18.7	50.6	19.5	5.3	105.7
Arts-Education	18	175	40	5.6	11.1	50.0	22.2	11.1	105.0
Education	170	191	42	2.4	19.4	50.0	22.9	5.3	102.0
Agriculture	231	178	36	3.0	16.5	46.8	25.5	8.2	100.8
Medicine	11	145	70	0	36.4	36.4	27.2	0	99.5
Veterinary Medicine	8	117	46	0	0	50.0	37.5	12.5	88.0

UPPERCLASSMEN

Second year	170	192	48	11.8	27.6	49.4	9.4	1.8	118.7
Third year	149	194	49	12.8	32.2	38.9	12.1	4.0	121.7
Fourth year	33	180	51	12.1	33.3	36.4	6.1	12.1	122.5
Special and unclassified	53	193	54	9.4	22.6	35.9	20.8	11.3	108.5
Graduates	63	202	65	31.8	33.3	27.0	7.9	0	141.7
Foreigners									
(language handicap) ..	95	170*	21	4.2	17.9	35.8	24.2	17.9	95.8

EVALUATION OF THE REVISION

The first point to be considered in the revision of the test was whether Forms 3 and 4 were of equal difficulty. One hundred records were taken at random of students in Form 3, and another hundred in Form 4, and the mean scores for individual tests and for total score were determined. These results are given in Table XX.

TABLE XX

Test	I	II	III	IV	V	VI	VII	Mean
Form 3	12.4	11.2	16.8	13.3	15.4	19.6	27.4	112
Form 4	12.5	12.2	17.2	12.7	16.2	17.5	22.6	106

It will be seen that the differences are slight, except possibly in the case of Test 7. While the total scores differ on the average about six points, this difference is not significant when the probable error is taken into consideration. This difference proves to be only about 2.3, the probable error of difference and hence, is doubtless due to chance factors, and does not reflect any inherent difference in difficulty.

One criterion of the value of the test for University purposes is the extent to which test scores correlate with academic standing. For this purpose, final grades were obtained for 200 Arts freshmen, taken at random, and 100 random Agriculture, and 100 random Engineering students regardless of sex. A group of 131 Seniors in the College of Agriculture likewise took the test at the request of the Dean. The correlations between point-hour ratio (see page 6 in the above report) and raw scores in separate tests and likewise total score are given in Table XXI. In computing point-hour ratios, however, the present system of weighting, the marks, "A," "B," "C," "D," "E" was used (except for the Agriculture Seniors).

TABLE XXI

CORRELATION BETWEEN POINT HOUR RATIO AND INTELLIGENCE TESTS

	Arts Freshmen	Engineering Freshmen	Agriculture Freshmen	Agriculture Seniors	Average
Number cases	200	100	100	131	
Total score .....	.49	.40	.24	.36	.37
Test 1 .....	.28	.26	.02	.25	.26
Test 2 .....	.34	.17	.18	.29	.24
Test 3 .....	.45	.12	.16	.29	.26
Test 4 .....	.38	.21	.06	.31	.24
Test 5 .....	.29	.24	.15	.33	.25
Test 6 .....	.33	.43	.17	.25	.29
Test 7 .....	.37	.19	.23	.26	.26

The academic marks for the first three groups are based on only one quarter's academic record and hence perhaps are not as valid as the marks for about four years' work in the case of the seniors.

The correlations are of about the same order as in previous years, but vary as formerly with the different student groups. Considering correlations of total test with scholarship, the coefficients vary from .24 to .49 in 1922, as

compared with .29 to .43 the previous year. The maximum has been raised slightly by the revision although the average coefficient is about the same.

Considering the separate tests from the standpoint of average correlation as given in the last column of the table, it is evident that all contribute about equally to the prediction. Comparing with the corresponding averages for the previous year (obtained by averaging each row in table XVI), it is evident that Number Series Completion was slightly improved by revising its form while the reverse was true to a slight degree in the case of synonym-antonym and disarranged sentences.

PHYSICAL EFFICIENCY TESTS AND INTELLIGENCE

One of our students correlated intelligence score with four of the measures of Physical Efficiency given by the Department of Physical Education, namely, 100-yard dash, broad jump, fence climb, and baseball throw. The correlations were all negligible.

The low correlation, however, between Physical Efficiency tests and intelligence suggested the possibility of including both in a regression equation for predicting scholarship inasmuch as a correlation of about .40 has been hitherto found between the University tests and University scholarship. If any other measure were available which correlated somewhat with scholarship and low with intelligence this measure could be combined with intelligence to improve the prediction of scholarship. Inasmuch as the Physical Efficiency tests had this low correlation with intelligence, it seemed worth while to investigate their relation to scholarship. Consequently, 200 male students, who took the Physical Efficiency tests in the year 1920-1921, were selected at random and these Physical Efficiency measures correlated with point-hour ratio. The correlations are: fence climb, .08, 100-yard dash, .01, and baseball throw, .06. If these correlations had been .20 or .30, it would have been possible to put them with intelligence in a regression equation predicting scholarship. However, their correlation with scholarship is of such a low order that manifestly nothing could be gained by this procedure.

INTELLIGENCE OF VARSITY ATHLETES

A study was made in collaboration with the Department of Physical Education of the intelligence of the various Varsity athletic squads for 1921-1922, with the exception of the football squad. The football squad for 1922-1923 was used. The intelligence scores were tabulated for all the members of each squad and are shown from one aspect in the following table:

	High I and II 40%	Average III 45%	Low IV and V 15%	Average Percentile	Number
University				65	..
Cross Country	50	50	0	69	24
Tennis	25	67	8	64	12
Golf	14	86	0	62	7
Track	46	44	10	62	61
Baseball	32	48	20	54	40
Basketball	35	40	25	54	20
Football	24	53	23	52	53
Wrestling	24	44	32	50	25

The successive columns represent the per cent of the respective squads falling in classes I, II, and III, and classes IV and V. The columns at the right give the average percentile score for the squads and the last column the number of members involved. The row marked "University" is based upon data

obtained in 1919 when the entire student body took the test. The percentile scores are all in terms of freshman percentile so this makes the University average higher than the 50 which would have been obtained had everything been in terms of total University percentiles.

Too much significance cannot, of course, be attached to squads embodying only a small number of members. However, the general trend seems to be for cross country, tennis, golf, and track, to stand relatively high and compare favorably with the University at large. Whereas, baseball, football, basketball, and wrestling stand appreciably lower. A clear-cut explanation is not possible, but it is to be noted that with the exception of wrestling, the four lower classes comprise a team, functioning more or less as a unit, whereas, in the other instances, efficiency is more a matter of individual prowess. It may be possible that the individualistic sports tend to attract a slightly higher type of intelligence than do the sports involving distinct co-ordination of all members of a team. It is probable that the relation found points to *attraction* of the different degrees of intelligence to the different teams, rather than to the necessity of different degrees of intelligence for the different branches of sport. The total average of all the teams is about 58, as compared with 65 for the total University. This difference is over five times the probable error of difference and is doubtless real.

The athletes seem slightly lower in intelligence than the average upper-classmen, but analysis of results show this to be due to a smaller number of athletes of high grade rather than a preponderance of those of a low grade*.

STUDY OF SENIORS IN THE COLLEGE OF AGRICULTURE

At the request of the Dean of the College of Agriculture, practically all the seniors in the College were given the test in April, 1923. Of these, 132 had taken the test at some previous time. The majority of them nearly four years ago when they were freshmen. To make results comparable, their scores, this year were reduced to terms of freshmen percentile for the present form of the test and their scores in their former test were likewise reduced to freshmen percentile.

The first problem considered was the general correlation of the two tests. Computing the correlation by the products-moment method, the coefficient is .75, thus indicating a marked tendency for the person who scored high in intelligence as a freshman, to do likewise as a senior and vice versa. This constancy of a person's relative standing is a considerable justification of the tests from the standpoint of reliability, inasmuch as they locate an individual relative to his fellow students in much the same position after the lapse of several years. The scatter plot reveals somewhat heavier concentration in the quadrant for low freshman and high senior intelligence than in that for high freshman and low senior. It seems that an individual does not drop backwards during his course as often as he goes forward relative to the group.

Nichols in the Physical Education Review.

A further problem is the extent to which individuals improve in intelligence measures after the lapse of several years in College. The average percentile for the first test is 52, and for the second test, 71. In other words, the average individual improves about 19 percentile when he repeats the test after several years (in the majority of cases it was after four years). The question immediately arises as to whether this improvement is due to actual improve-

* This topic will be discussed in more detail in a forthcoming article by Messrs. Burr and

ment in intelligence or simply due to practice in taking the tests, and general adaptation to test conditions. A partial answer may be obtained to this question by comparing the above difference with that obtained on another occasion with students who were re-tested after one year. In the fall of 1920, 523 Seniors who had taken the test the previous year were re-tested with a different revision of the test. Whereas, their first average score was 70, their second was 86 percentile. If the improvement in test scores was due to University work as effecting intelligence, rather than to practice in tests, it would be suspected that a group, most of whom had four years' work between tests, would show greater improvement than a group which had only one year between tests. In the present case, an improvement of 16 percentile was found for the one-year group and 19 percentile for the group most of whom had a four-year interval. It would seem then that the improvement to a very considerable extent is due to adaptation to test conditions, greater familiarity with the methods so that less time would be spent in reading explanations, and to the general adaptation to the attitude of taking examinations which a student frequently develops. It would seem that the tests as has generally been supposed measure to a great extent a person's innate capacity, which is not greatly influenced by academic training.

It is interesting to note whether the improvement shown by intelligence examinations is greater with students of any particular degree of ability. To answer this question, students were classified on the basis of the first tests in the 10 groups as indicated in the following table and for each of these groups the average percentile improvement computed.

Interval in First Test	Number of Cases	Average Improvement
1-10	6	10
11-20	23	22.22
21-30	9	35.78
31-40	5	34
41-50	20	26.9
51-60	16	15.5
61-70	11	13.73
71-80	15	11.6
81-90	13	7
91-100	14	2.07

It is to be noted that the greatest improvement occurs between the 21 and 40 percentile and that it is particularly small at the upper extreme. This is to some extent due, of course, to the fact that some of the upper extremes could not be appreciably improved. Moreover, the few cases of very low intelligence did not improve so very much. It is possible that the average student is the one who improves most by adaptation to test conditions, etc.; whereas, the high student catches on very quickly anyhow and does not profit so much by a re-test. And for the low student practice in one examination is not sufficient to provide any great adaptation to conditions.

A further problem is which sub-tests show the greatest improvement during the interval. There are five of these sub-tests which are roughly similar in the original 1919 test and the present one. The average for a random group of about 200 students in each sub-test in each examination was obtained and each of the present group's deviation from the norm computed in both respects. There were 97 students for whom such data was available. The following table gives the deviation from the norm as per cent of the norm.

IMPROVEMENT IN INDIVIDUAL TESTS—PER CENT DEVIATION FROM NORMS

	First	Second	Improvement
Arithmetic	0	15	15
Opposites	-5	8	13
Rearranged sentences	-12	11	23
Number completion	-5	21	26
Analogies	-6	-18	-12
Information	-6	12	-18

For instance, in the Arithmetic test, the group did not deviate at all in the first instance, but were 15 per cent above in the second. In the Opposites test, they were 5 per cent below in the first instance, but 8 per cent above this year. The last column gives the total improvement, that is, algebraically figuring second average deviation minus first average deviation. The results are not very striking. The greatest improvement appears in the rearrangement of sentences and number completion, while the differences are rather slight in the other sub-tests. It is surprising that in the Analogies test, there is a slight falling off, inasmuch as this is one of the most difficult tests for students to understand. However, the difference of minus 12 is perhaps too slight to be of significance.

The general conclusion from the study of this special group would seem to be that (1) there is a high correlation between first and second tests of the same student after a lapse of several years, and (2) that the average individual shows a considerable improvement on the second test over the first, but that this does not depend very much upon whether one or four years of University work intervenes. The implication is that the test measures an innate capacity, which is relatively unchanged and the improvement is due principally to adaptation to test conditions and practice on tests.

DEPARTMENT OF VOCATIONAL EDUCATION

D. J. MACDONALD

The Department was established July 1, 1922. Courses were offered, however, from June 19, when the Summer Quarter began. When established, the Department contemplated carrying on the following lines of activity: Training shop teachers in the principles of teaching, in evening classes; training retail selling teachers; conducting teacher-improvement classes; training leaders for foremanship classes or conferences, and training teachers for part-time (continuation) schools. With the exception of the second, all of these activities have been carried on to some degree during the year. It will be observed that all of this work is professional education and in no wise undertakes technical or content instruction.

PERSONNEL

The teaching staff consisted of Miss Sylvia C. Sicha, Assistant Professor, in charge of retail-selling work (resigned November 1, 1922); Mr. L. A. Flagler, in charge of instructor foreman training in the Cincinnati district; Mr. R. W. Jenkins, in charge of instructor foreman training in Hamilton and Middletown; Mr. J. D. Runkle, Assistant Professor, engaged in carrying on research work in the field of commercial education (resigned June 1, 1923); Miss Helen E. Ramsdell, Special Agent for retail selling in the state; and D. J. MacDonald, head of the Department.

Those engaged in conducting evening teacher-training courses in the various centers were:

In Columbus—Mr. R. E. Smith of the Industrial Education Department, Mr. Walter Bailey of the Columbus Trade High School, and Mr. Frank P. Darby, also of the Columbus Trade High School.

In Toledo—Mr. J. M. Sterling, Director of Vocational Education in the City Schools; Mr. F. M. Dannenfels, Supervisor of Soldier Rehabilitation Work, and Mr. Elbert E. Day, Principal of one of the grade schools of the city.

In Akron—Mr. A. W. Durr, teacher of mechanical drawing and shop work in the public schools.

In Dayton—The work in this center was conducted by the head of the department, as was also some of the work in Akron, Toledo, and Columbus centers.

In Marion—Mr. R. E. Smith of the Industrial Education Department.

ADDRESSES AND LECTURES

D. J. MacDonald—Northwestern Ohio Teachers' Association, Toledo; Northeastern Ohio Teachers' Association, Coshocton; Trade and Industrial Section of the Ohio Vocational Education Society, Middletown; Teachers of Part-time Classes, Akron; National Personnel Association, Pittsburgh, Pa.; Evening School Teachers, Dayton.

RESEARCH WORK

D. J. MacDonald—Survey of Mansfield, O.; assisted in preparing for Survey of Part-time Pupils in Dayton.

J. D. Runkle—Survey of Educational Institutions in United States Which Offer Courses for Training Commercial Teachers; Survey of Ohio Teachers of Commercial Subjects.

MISCELLANEOUS ACTIVITIES

D. J. MacDonald—Member of Committee for Preparing Foreman Training Program for National Personnel Association; Chairman of Committee for Preparing Program on Industrial Education for Vocational Education Association of Middle West.

J. D. Runkle—Chairman of Program Committee on Commercial Education for the Third Educational Conference at Ohio State University.

Helen E. Ramsdell—Editor of Ohio Retail Selling Teachers' Bulletin.

R. W. Jenkins—President of Trade and Industrial Section of the Ohio Vocational Education Society.

ENROLLMENT

The enrollment in accredited University courses for the four quarters of 1922-1923 has been as follows: Summer Quarter 14, Autumn 14, Winter 14, Spring 29, making a total of 71.

The enrollment for non-credit work in evening teacher-training courses in Toledo, Akron, and Columbus was 20, 10, and 25, respectively, making a total of 55.

The enrollment for non-credit work in teacher-improvement courses outside Columbus has been as follows: Toledo 37, Marion 5, Dayton 32, Akron 14, making a total of 88.

The enrollment for non-credit work in correspondence courses has been 15.

The enrollment for non-credit courses training shop teachers in Cincinnati, Hamilton, and Middletown was 260.

The enrollment in courses for training conference leaders was 75.

ACTIVITIES OF THE TEACHING PERSONNEL

PUBLICATIONS

D. J. MacDonald—Determining Fitness for Promotion, American School Board Journal, December, 1922; Educational Aims—How to State Them, Educational Review, May, 1923; Testing Potential Teachers for Trade Proficiency, Vocational Education Magazine, July, 1923; Principles of Lesson Planning in Part-time School Work, Vocational Education Magazine; book review, Our Boys, Burdge, Journal of Educational Research, January, 1923.

J. D. Runkle—Better Trained (Commercial) Teachers Needed, Vocational Education Magazine, March, 1923; The Training Received by Commercial Teachers, Vocational Education Magazine, April, 1923; A Commercial Teacher Training Program, Vocational Education Magazine, July, 1923; Commercial Teacher Training, Balance Sheet, May, 1923.

THE THIRD ANNUAL OHIO STATE EDUCATIONAL CONFERENCE
APRIL 5, 6, and 7, 1923

THE EXECUTIVE COMMITTEE OF THE CONFERENCE

Experience derived from the Second Annual Educational Conference showed the need of early planning and organization. The committee therefore organized and began working in May, 1922. The first item decided upon was the keynote for the entire Conference. Because of the pressing need for determining the direction of modern education, it was thought best to devote the Third Annual Educational Conference to "Educational Objectives." In conformity with this idea four prominent men out of the state were selected to take part in the general meetings who are authorities on objectives in the different phases of education. These were: Dr. S. S. Colvin and Dr. W. C. Bagley of Teachers College, Columbia University; Dr. C. H. Judd of the University of Chicago, and Dr. G. A. Works of Cornell University. In addition to these men President W. O. Thompson and Dr. B. H. Bode of Ohio State University were also selected to address the general sessions.

In addition to the general programs, there were 24 sectional programs, some of which were headed by well-known school people of the state outside of the University. This was done in order that they might feel that it was their Conference in a very personal sense. Due credit must be given to those members of our own staff who, acting as chairmen of sections, gave liberally of their time and thought to making these programs a success.

PUBLICITY

The Conference was especially well advertised through circular letters, most of which were written by the chairmen of the various sections, mimeographed, and mailed by the Bureau of Educational Research directly to the people interested. Beginning in November, 1922, the Educational Research Bulletin ran announcements of different phases of the Conference in practically every issue. Mr. H. G. Hullfish, in co-operation with Mr. J. E. Pollard, conducted an organized campaign for newspaper publicity throughout the state. Complete data concerning the speakers was furnished by the Bureau of Educational Research and pictures of all the prominent speakers, sectional chairman, and executive committee were obtained and used for publicity purposes. Advanced copies of most of the conference speeches were secured and complete stories of several of the meetings were gotten out for the use of state papers. The Columbus papers gave most generously of their space. The Lantern and the Daily Bulletin brought the news of the Conference to the constant attention of the student body and members of the faculty. The clippings received from papers over the state show that this material was considered good news for the local communities and justified in the minds of many people the absence of teachers and administrative officers at the Conference.

PROGRAM

A comparison of the scope of this year's Conference with that of 1922, shows that it has had a splendid growth. There were 53 speakers from Columbus this year against 42 last year, 17 from Cleveland as against 11, 11 from out of the state as against five, and a total of 124 participants as against 98.

In many of the sections the chairmen especially provided that the papers should be shorter in order that more time might be given for discussion. In this free exchange of ideas material help was received by the entire group. Eight of the 24 sectional chairmen arranged for a luncheon or dinner for their particular groups. In addition Phi Delta Kappa and Phi Lambda Theta, honorary educational fraternity and sorority, respectively, had luncheons. The Board of Control of Pomerene Hall very kindly permitted the use of the Hall through the Conference for exhibit purposes and granted the use of the Lounge Room to the Parent-Teacher Association for a formal reception.

EDUCATIONAL EXHIBITS

Five types of exhibits were displayed throughout the Conference. In the gymnasium of Pomerene Hall, the Bureau of Educational Research had an exhibit of textbooks for elementary and secondary schools and professional books for teachers. These, together with school reports, courses of study, school surveys, educational magazines, and other types of professional literature, occupied approximately two-thirds of the entire space of the room. Members of the bureau staff were in constant attendance to direct visitors to those items in which they were particularly interested.

The Physical-education Department also had an exhibit in this same room. It covered the entire field of physical and health education, beginning with the elementary school and extending through the university. The exhibit included models, charts, diagrams, pictures, pamphlets, bulletins, and selected bibliographies. The attention given to this exhibit by the school people evidenced the genuine interest in this phase of education on their part.

In the Wicker Room of Pomerene Hall, the Psychology Department displayed a large number of tests with information regarding price, publishers, and use of material.

The Modern-language Department in Hayes Hall conducted a very interesting demonstration of the use of Professor Rockwood's phonograph equipment for the teaching of modern language.

In the corridors of the Library the Department of School Administration and the Bureau of Educational Research held an exhibit of school-building models, architects' drawings, and a population survey upon which a school-building program is being based.

REGISTRATION

In spite of every effort to secure a complete registration, it is quite likely that at least 500 people attended who did not register at all. The total number who registered was 2660, over 1300 of whom were from outside of Columbus. Practically every type of school work—elementary, secondary, and higher—was represented in the register.

REPORT OF THE DEAN OF THE COLLEGE OF ENGINEERING

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report from the College of Engineering for the year ending June 30, 1923.

	ENROLLMENT		
	Fall Quarter	Winter Quarter	Spring Quarter
Architecture	58	56	56
Architectural Engineering	60	62	52
Ceramic Engineering	55	52	47
Chemical Engineering	151	135	135
Civil Engineering	214	217	186
Electrical Engineering	389	348	311
Mechanical Engineering	279	244	223
Metallurgical Engineering	44	39	37
Mine Engineering	55	49	39
General Engineering	9	4	3
Unclassified	57	90	61
	1371	1296	1150

In the total enrollment for the Fall Quarter there was a decrease of 7.7 per cent over the first semester for the year preceding. This decrease was largely due to the low freshman class registration, which was 107 students less than the year before. For some reason the entering class was about the same in numbers as the freshman class in 1914. A decrease we find took place in other engineering colleges, therefore indicating that the condition is not local and that we are approaching normal pre-war conditions. Upon the basis of a normal increase, which for a period of several years has been 13 per cent, the enrollment for the year 1923-1924 should be about 1550 students.

Heretofore the drop in enrollment between the first and second semesters has been fairly constant at about 8 per cent. During the past years the decreases between quarters were 5.5 per cent and 11.5 per cent, respectively. The greater drop between the Winter and Spring Quarters was due to many completing their requirements for degree during the Winter Quarter.

Up to the year 1920, the second-year registration has always run below that of the first year due to the normal shrinkage during the first year. The reverse has now taken place. The sophomore class exceeded in numbers the freshman class by quite a high percentage. During the past year, in the Winter Quarter, this excess was 161 students, or 51 per cent. This great difference is accounted for through the drop in freshman registration and the many students entering the second year with advanced standing earned by the majority at other institutions in the state. There were 33 universities and colleges represented by those entering and 23 of these are Ohio institutions listed as follows:

Adrian College
University of Akron
Baldwin-Wallace
Capital University
Case School of Applied Science
University of Cincinnati
Dayton University
Defiance College
Denison University
Heidelberg University
Hiram College
Miami University

Mt. Union College
Muskingum College
Oberlin College
Ohio University
Ohio Wesleyan University
Otterbein University
Toledo University
Western Reserve University
Wilmington College
Wittenberg University
Wooster College

Institutions of other states:

University of Chicago.....	Illinois
Cornell University	New York
Hamilton College	New York
University of Illinois.....	Illinois
Milwaukee State Normal.....	Wisconsin
University of Missouri.....	Missouri
University of Pennsylvania.....	Pennsylvania
Purdue University	Indiana
Tsing Hua College.....	Peking, China
University of West Virginia.....	West Virginia

It is quite evident that the institutions in Ohio will more and more serve as feeders to our college. This condition is being encouraged by our faculty for they realize the advantages to the student in beginning his university education at a small institution and also we know full well the desirability of having a lighter load upon our already overloaded plant. We would particularly urge that students intending to enter our engineering college with advanced standing continue the liberal training of their high schools even though they may be compelled to spend two or more years in this junior college work before qualified to enter the second year of the Engineering College.

GRADUATES

The number of students receiving their degrees at commencement, or during the year, were as follows:

Bachelor of Architecture	5
Bachelor of Architectural Engineering	13
Bachelor of Ceramic Engineering	10
Bachelor of Chemical Engineering	40
Bachelor of Civil Engineering	33
Bachelor of Electrical Engineering.....	53
Bachelor of Mechanical Engineering	54
Bachelor of Metallurgical Engineering	10
Bachelor of Engineering in Mining.....	11
Bachelor of Engineering	4
Architectural Engineer	1
Chemical Engineer	3
Total	237

The number of graduates show an increase of 41 per cent over last year; 40 per cent was the forecast in our report for 1922. This large increase was due to the high registration just after the war. All courses gave an increase except Ceramic Engineering. The greatest increase occurred in Electrical Engineering, where it was 100 per cent. While there will be a drop in the number of graduates for the year 1923-1924, it is expected that the number will be much above that of previous years.

FACULTY AND INSTRUCTION

With the beginning of the year, Professor Clyde T. Morris, who had been on a leave of absence serving as Chief Engineer of the Stadium, took up his regular work and J. R. Burkey, who had served as Professor Morris's substitute, resigned, accepting a position with Ohio Highway Department and taking charge of some very important concrete bridge work at Conneaut, Ohio. During the two years Professor Burkey served the Civil Engineering Department his work was most efficiently done, and it is hoped that some provision may be made in the future so that he may be added to the staff of that department. There were no resignations during the year beyond the rank of instructor so, therefore, practically all of the regular instructional force were on duty throughout the year carrying the usual heavy schedules, with classrooms crowded to overflowing.

Although for two years previous to the past year lectures by the Dean and department heads had been given to the freshmen engineers, the attendance to which was not required, the past year witnessed the introduction of this work as a required course and the results obtained are proving most conclusively the great value of this method of contact with the freshmen. The majority of students entering the engineering courses do not fully realize the importance and value to engineering of the fundamental subjects they are taking and this is particularly so in the case of English. It is at these lectures, therefore, that much stress is placed upon the value of the students' subjects and special emphasis is given to English, since in the mind of the students this subject is far removed from the field of engineering. The reports received from many freshmen instructors were most gratifying for the students were showing great interest and enthusiasm in all their work. Many reported that the freshman class was an exceptional one and these statements are borne out by the facts that there was by far a less proportion of students than heretofore called in on dean's reports, a smaller number placed on probation, and very few failed out. The decrease in probations and failures out of college may have been partly due to the application of the point system, but reporting to the dean was not.

The lectures given to the freshmen varied greatly in character. They began by stressing the importance of the work given in the freshman year, pointing out its relation to the subsequent work in their engineering courses. The systems of grading in vogue were explained in detail in order that the freshmen might know the standards required in order to continue in the University and finally graduate. Several lectures upon the important subject of "How to Study" were acknowledged by many students to be most helpful to them. A series of talks upon the "History of the Engineering College and of Some of Her Great Men" brought University traditions close to these students right at the beginning of their University career. A series of talks by heads of the several degree-giving departments relating to their respective fields gave the student a clearer view of the breadth of the engineering field. The presentation of a variety of leading engineering projects in and about Columbus, as well as outside of Ohio, gave him something of a vision of what is expected of the engineer. In order also that he might realize that the responsibility of the engineer consists of more than progress and development along material lines, Mr. R. H. Sweitser of the Columbus Iron & Steel Company gave a talk on "Human Engineering." Colonel Edward Orton, Jr., spoke upon "The Engi-

neer as a Citizen," and Professor J. V. Denney had the undivided attention of this class when he talked upon "Educational Value."

In the final examination at the end of the year this class was asked to indicate those lectures during the year which they believed to be of the greatest benefit to them. The result of the ballot was that the last group of lectures given by those men outside of the college received the largest number of votes. This expression indicates that our incoming students are serious minded and we are unfair to charge them as a body of not taking their work seriously enough just because a certain few are slackers.

Under the direction of a college lecture committee consisting of representatives from the college faculty and the students' engineering council, a series of lectures were given during the year under the caption of "Broaden Out, Engineers." Under the Four-quarter Plan all class work during the Junior and Senior years was so scheduled that 4 p. m. Friday was left vacant and the University Chapel was reserved for the engineers at that hour. The attendance, while not reaching the number it should, was gratifying, the maximum number being about 650. The lectures given were as follows:

Mr. Willard Beahan, Cleveland, O.; subject, "Railroad Building on the Frontier" (illustrated).

Mr. E. R. Cott, Hocking Valley Ry. Co., Columbus, O.; subject, "Accident Prevention."

Professor F. A. Ray, Ohio State University; subject, "The Conditions of the United States Coal Industry and Some Suggestions for Its Improvement" (illustrated).

Professor R. C. Osburn, Ohio State University; subject, "The Present Status of the Evolution Theory."

Professor George W. Rightmire, Ohio State University; subject, "Patents."

Mr. Julius F. Stone, Columbus, O.; subject, "The Canyons of the Green and Colorado Rivers" (illustrated).

Mr. C. B. Galbreath, Columbus, O.; subject, "Some of Ohio's Distinguished Men."

Mr. I. R. Rectanus, American Rolling Mills Company, Middletown, O.; subject, "Job Analysis and Personal Service."

Mr. Charles F. Kettering, president General Motors Research Corporation, Dayton, O.; subject, "The Engineer of Today and Some of His Works."

NEW EQUIPMENT

The special grants allowed last year to the Department of Physics and Mechanical Engineering for X-ray apparatus and a steam turbine unit were increased so that the year 1923-1924 will see in the Physics Department an X-ray equipment excelled by only two educational institutions in the country, namely, Harvard and Columbia Universities. The steam turbine unit for the Department of Mechanical Engineering, when installation is completed, will be a valuable acquisition to that department and will help to modernize the antiquated and obsolete steam equipment which has been in use there for many years.

The close co-operation between the Signal Corps division of the Military Science Department and the Department of Electrical Engineering made available a large amount of valuable equipment for the use of that department in the field of communication engineering. This equipment, however, is largely in the barracks where fire hazard is high and space is very limited. Its most effective use will not be possible until housed in the former aviation laboratory which is to be made available in 1923-1924.

The University broadcasting station, located in the aviation building, went into operation during the early part of the year. In addition to the weather, market, and crop reports sent out daily at 1 o'clock and news items and road news broadcasted at 4 o'clock daily, a regular program was presented every

Wednesday evening, of about one hour's duration, consisting of vocal and instrumental selections and a short talk or lecture. By reports received from parties "listening in" the station operated most successfully and its effective range at times was Cuba and Vancouver.

For over 15 years Professor James E. Boyd has been planning upon a materials testing laboratory in which physical tests might be carried on, paralleling his classroom work. This system is in use at many of the technical institutions. Such a laboratory has now been made possible by the constructing of a publication building which will make available space in the Shops Building now used for printing and binding purposes. A large part of the equipment for the materials laboratory is now under order, made possible by the Morrill Fund. Through the same fund new equipment has been purchased for the Departments of Chemistry, Metallurgy, Electrical and Civil Engineering, and Industrial Arts.

The need for new equipment in all departments of this college continues to be pressing as in the past. There has been a slipping backward for many years, so that some of our laboratories are now museums of obsolescence. The annual equipment appropriation allowed by the Legislature for the entire University would be no more than is necessary to meet the needs of this College if we are to maintain our present standing among engineering institutions and meet the demands of the engineering world.

BUILDINGS

While relief to Chemistry was experienced during the past year, due to the new laboratory, this relief was to a limited extent only as the new laboratories were not fully equipped. This unsatisfactory condition must continue and the barracks laboratory be used until the laboratory portion of the entire building is constructed. It is hoped that this laboratory will be completed as planned and be fully equipped for service for 1924-1925. The laboratories located in the barracks are certainly a menace to the health of our students and should be abandoned as soon as possible.

The completion of the west wing of Brown Hall has provided relief to University Architect and the Department of Architecture and Engineering Drawing, but Civil Engineering must continue in its present contracted quarters until this building is completed as planned many years ago. The road-material testing laboratory which has very small quarters in the basement of Brown Hall has now been given more space, temporarily, in the cattle barn. This arrangement will be very satisfactory until a new space is provided in the first unit of the Engineering Experiment Station Building to be erected in 1924-1925.

The proposed addition to Robinson Laboratory which is now assured will relieve the intolerable classroom, office, and drafting-room conditions which are prevailing in the Mechanical Engineering Department and give space for that field of engineering which has grown to be one of the largest in the United States, that is Automotive Engineering.

The student load in the Department of Electrical Engineering continues to be much in excess of that just before the war. The classroom space was so inadequate during the past year that it was necessary to use the little auditorium for classroom purposes, a most unsatisfactory arrangement, and also to use a room in Brown Hall intended for a photographic laboratory. The space now occupied by Agricultural Engineering and to be made available for Elec-

trical Engineering will help that department greatly. As is now planned, that space will provide two classrooms, a drafting-room, three offices, and about 10 laboratory rooms for radio, communication engineering and signal corps work.

As was stated in my report of last year, the present quarters for Chemical Engineering and the equipment compare very favorably with that of other departments. Although provision is being made to house this work in the new chemical laboratory, and much greater space is being provided there, this plant will lag behind that of the University of Michigan.

As has been stated previously, the Mine Engineering Department has been without a laboratory since the burning of the Chemistry Building, and the Ceramic Engineering Department has surrendered some of its space to the United States Bureau of Mines as well as two rooms for use of the Engineering College offices. It has been proposed that the large brick kiln now located in the Ceramic Department be moved to the State Brick Plant, thus making space available for both the Mine and Ceramic Engineering Departments.

When the west and north wings of Brown Hall are added, space will be available for the Engineering College offices and as Mechanics is to move into the Shops Building, more space will be available in Lord Hall for those departments remaining there.

THE ENGINEERING EXPERIMENT STATION

The personnel of the Advisory Council of the Engineering Experiment Station for the year ending June 30, 1922 was:

E. A. Hitchcock	Director
F. C. Caldwell	3 years
Alpheus Smith	3 years
C. E. Sherman	2 years
J. R. Withrow	2 years
W. T. Magruder	1 year
D. J. Demorest	1 year

In your annual report for the year ending June 30, 1922, will be found a list of the projects which were active at that time. During the past year some of these have been completed and published as bulletins. The list of all bulletins and circulars published, or in press, for the year, is as follows:

- The Determination of Gums in Sugar Products, Bulletin No. 21, by Professor James R. Withrow and H. T. Ruff.
- Gasification of Ohio Coals, Bulletin No. 22, by Professor D. J. Demorest.
- Standardization of Telephone Rates, Bulletin No. 23, by Professor C. A. Wright and D. B. Judd.
- Effect of Pulsations on Flow of Gases, Bulletin No. 24, by Professor Horace Judd and Donald B. Pheley.
- Tapered Struts, a Theoretical and Experimental Investigation, Bulletin No. 25, by Professor James E. Boyd.
- Climatological Data Relative to Ohio for Engineers, Bulletin No. 26, by William H. Alexander, Director of United States Columbus Weather Bureau, and Professor C. E. Sherman.
- Automobile Headlighting, Circular No. 8, by Professor F. C. Caldwell.
- Telephone Service, Circular No. 9, by Professor C. A. Wright.
- The Ohio Consumers' Coal Problem, Circular No. 11, by Professor H. E. Nold and W. H. Snook of the Ohio Public Utilities Commission.

PRESENT STATUS OF ACTIVE PROJECTS

Ohio Steam Flow, by Professor C. E. Sherman. It is expected that this bulletin will be ready for the press in a few months.

Analyzing and Testing of Coals of Ohio, by Professor D. J. Demorest. This investigation work has now been under way almost continuously for over two years. One preliminary

bulletin—mentioned above—has been published and others are to follow. This project has been receiving most excellent support from such outside interests as the Southern Ohio Coal Exchange, the Ohio Gas and Oil Men's Association, and the American Gas Association. Their contribution has amounted to nearly \$8000. In addition to this, the United Gas Improvement and Construction Company has donated equipment valued at \$2000. The Jeffrey Manufacturing Company and American Coal Cleaning Corporation are now donating equipment to the value of about \$12,000.

Bearing Testing Machine, by Professor William T. Magruder. Much data has been obtained and it is expected that the material will soon be in shape for publication.

Sulphur Dioxide Furnaces and Electric Endosmosis and Amalgams, by Professor J. R. Withrow. Several articles have now been published in chemical journals, although the investigation is not completed. It is expected that all work will be published in bulletin form during the present year.

Soil Surveys Relative to Road Failures, by Professor R. H. Eno. A large amount of research work has been done and progress has been made, although the field is new. The Ohio Good Roads Federation is in close co-operation with the Experiment Station.

Chemical Study of Commercial Limes, by Professor J. R. Withrow. This work has now been in progress two years, supported through a co-operative fellowship by the National Lime Association. This fellowship will be continued another year and it is, therefore, expected that some very valuable data will appear in bulletin form soon after this year.

Wire Rope Fastenings, by Professor William T. Magruder. Much investigation has been carried on which should result in a valuable publication for use in the preparation of safety codes.

Economical Use of Coals in Different Types of Boiler Furnaces, by Professor F. W. Marqu's. A very large amount of investigation has now been carried on in the new University boiler house. This work will continue during the present year and the new stoker equipment now being installed will add greatly to the opportunity for more extensive work on this project.

Heat Conductivity and Heat Transfer of Different Refractories, by Professor Arthur S. Watts. The preliminary work of this investigation relating only to the development of the apparatus for carrying along the work will be published in the October number of the Journal of the American Ceramic Society.

PROJECTS AUTHORIZED DURING THE YEAR

Telephone Service, by Professor C. A. Wright. This matter has been published as Circular No. 9 and relates to the "elements of telephone service to which the subscriber is entitled in return for adequate telephone rates."

Radio Telephone Service, by Professor C. A. Wright. This matter has been published as Circular No. 10. It gives the fundamental principles of radio telephony and explains in detail the method of installing receiving apparatus with costs of equipment.

Thermal Conductivity of Alloys, by Professor Alpheus W. Smith. This project is a continuation of the work done by Professor Smith and published as Bulletin No. 20, entitled "Thermal, Electrical Magnetic Properties of Alloys." The work relates largely to aluminum alloys and will be of special value to engineers and physicists.

Slippage of Belting, by Professor C. A. Norman. This investigation involved the design and construction of a machine for testing in a new way the slippage of belting and thus be able to prove or disprove the accuracy of methods used in the past.

Power Required by Auger Bits, by Professor William T. Magruder. This investigation will furnish data to the wood manufacturing industry along a line about which there is practically no information.

Climatological Data Relative to Ohio for Engineers, by William H. Alexander of the United States Weather Bureau, and Professor C. E. Sherman. For five years Mr. Alexander has been compiling data relating to precipitation and run-off in the State of Ohio during the past 100 years. This bulletin is now in the hands of the printers and will contain over 500 pages. It will be a monumental piece of work and of permanent value for reference.

Gum Determinations in Sugar Products, by Professor J. R. Withrow. This project was authorized in order to secure in bulletin form reprints of published matter contained in the Journal of Industrial and Engineering Chemistry. The bulletin is the result of three years' investigation conducted at this University and elsewhere, under the supervision of Dr. Withrow.

The Ohio Consumers' Coal Problem, by Professor H. E. Nold and W. H. Snook of the Ohio Public Utilities Commission. This matter has been published as Circular No. 11 and

relates to present and past condition in the coal industry. It shows by a series of curves the variation in production and costs and points out some of the difficulties responsible for the present high cost of coal.

Up to the present time there has been published by the College of Engineering and the Experiment Station 26 bulletins and 11 circulars. While this may be a creditable showing it is far from satisfactory. The pressure of University work is extremely high in this College so that if our professors give that conscientious attention, they have little time for investigation work.

The greatest future need of the station is sufficient appropriations so that there may be employed several full-time assistants who will be experienced, each in separate engineering fields, and thus be able to carry forward speedily, projects under the general supervision of the professor or investigator. Our station has facilities for many lines of work and the engineering interests of the state should be receiving constant benefits from their use, and in order that such is possible, adequate appropriations must be made. At the present time, the stations of Massachusetts, Illinois, Iowa, and Indiana are receiving appropriations much in excess of Ohio.

GENERAL CONSIDERATIONS

During the past year it was noticed that there seemed to be quite a change in the attitude of our students toward their work and particularly was this noticeable with the freshman class. The attitude was one of great interest and desire to do more than just "get by." There was a most decided dropping off in the number of delinquent students. At no time in recent years was there as few failures as in the freshman class, and the number called in on dean's reports from all classes was very much less than heretofore. In the freshman class at the end of the first quarter there were 112 failures as against 210 the year before and in the sophomore class there were 116 failures as against 260 the year before. From statistics gathered for the freshman class at the end of the first quarter, we find that on the average, the students were spending 63.5 hours per week in their University work. In addition 56 per cent of them were averaging 11.7 hours per week in outside work. In this average the numbers of hours for these students were 68, 48, 47 hours. We certainly rejoice in the most excellent showing made by our students and are, therefore, encouraged to greater efforts on our part.

The Engineering Student Council, organized in 1921-1922 and composed of two representatives elected from each student engineering organization, and the Dean, ex officio, is largely responsible for the closer bond of fellowship now existing among the various engineering groups of our student body. This organization was responsible for several events occurring during the year, the most noteworthy of which was a special convocation in honor of the President, filling the Chapel at the last convocational hour of the year.

For the reason that the past year was the first year for the Four-quarter Plan, it was fully expected that many difficulties would arise in connection with schedules and registration. We were happily disappointed in this for in this College the machinery worked smoothly and much credit is due those who were responsible for this result. While the introduction of the Four-quarter Plan and adoption of five-hour subject rule for the freshman and sophomore years have resulted in a reduction of teaching load in some cases, for many professors and instructors in this College the load has been excessive, running much above the normal of 15 hours per week. Of the 15 departments, 10 of them carried on the average loads, much in excess of the normal, and in two cases

the load was 100 per cent greater than normal. These excess loads were carried most willingly and the spirit shown by the instructional force was exactly that which is expected of an engineering teaching staff, that is, the greatest possible service to the University.

That our faculty is interested first and foremost in engineering education is very evident. This interest is shown by the active part taken by it in the meetings of the Ohio Section of the Society for Promotion of Engineering Education, and also in the national organization.

The Ohio Section of this society held its last annual meeting at Case School of Applied Science. There were 11 papers on the program, four of which were given by members of our faculty.

These papers were:

A New Plan for Teaching Students How to Study, Professor C. W. Foulk.

Methods and Content of Lecture Course to Freshmen Engineers at Ohio State University, Dean E. A. Hitchcock.

Notes on Examination Methods, Professor F. C. Caldwell.

A Chalk Talk on Methods of Teaching Lettering, Professor W. D. Turnbull.

At the last annual meeting of the Society for the Promotion of Engineering Education held at Cornell University, Ithaca, New York, Ohio State University was well represented by three from the Engineering College, and two from the Department of English. The general theme for papers and discussions was "Training for Leadership." While it has been the constant aim of engineering education to train young men who may become leaders, conditions are changing so rapidly that it is very difficult to determine the direction the instructional work should take. Engineering teachers, therefore, are on the alert constantly in order to determine the right move to make and your engineering faculty is not lagging behind in this respect.

Respectfully submitted,

E. A. HITCHCOCK, *Dean, College of Engineering.*

REPORT OF THE DEAN OF THE COLLEGE OF MEDICINE

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the Annual Report of the College of Medicine for the year ending June 30, 1923.

ENROLLMENT

During the year there were enrolled in the College of Medicine 324 students. There were 317 students enrolled in the four-year regular medical course and seven were special students taking work in Public Health and Sanitation and Public-health Nursing. Of the total number of students enrolled in the College of Medicine 299 were men and 25 were women. The majority of the students registered in the regular medical course also are candidates for the degree of Bachelor of Science or Bachelor of Arts. It will be recalled that many such students have completed two years of pre-medical work in the College of Arts of Ohio State University and are eligible for the degree in this College after the completion of two or three years' satisfactory work in the College of Medicine. The faculty of the College of Medicine has been particularly anxious to encourage all medical students to acquire the Bachelor's degree and an increasing number of students have been acquiring this degree in recent years. The College of Medicine now specifies the same point-credit requirement as is required in the College of Arts for a degree. Accordingly all students entering the College of Medicine from the College of Arts of Ohio State University will acquire at least the Bachelor's degree. The only students who will not acquire this degree are those entering the College of Medicine from other Ohio colleges. In this connection it may be stated that it would be highly desirable if other Ohio colleges giving pre-medical work would recognize the work done in the College of Medicine as the equivalent of the last two years' work in the College of Arts, thus making it possible for this group of students to avail themselves of the six- or seven-year course for the two degrees. Beginning in the fall of 1923, the enrollment in the freshman class of the College of Medicine will be limited to 75 students. These students will all be selected on the basis of their scholarship in their pre-medical work and the Arts College standard of 1.8 credit points, average will be maintained. Entrance requirements will be rigidly enforced by the University Examiner and with the additional scholarship standards in force the general quality of students in the College of Medicine will be materially raised. It is generally recognized that the average student finds more difficulty with the highly technical courses in the College of Medicine than he did with his courses in the College of Arts. Consequently, the percentage of failures is somewhat increased. The requirements of definite scholarship standards in pre-medical work as a prerequisite for entrance should reduce the number of failures to a minimum. During the year 39 students were granted the degree of Doctor of Medicine, five certificates in Public-health Nursing, and 15 certificates as Graduate Nurses from the University Hospital were granted.

FACULTY

Very few changes have taken place in the personnel of the faculty during the last year. Professor William A. Starin of the Department of Bacteriology was on a leave of absence for the year at the University of Chicago. His entire time for five quarters was spent in research. Dr. Solomon A. Hatfield, Assistant Professor of Medicine, was made Superintendent of the University Hospital coincident with the taking over of that institution on August 15, 1922. Dr. Earl H. Baxter and Dr. Link Murphy were appointed Instructor and Assistant in Medicine, respectively, in the Pediatrics section. Miss Edith Miller was appointed Instructor in Pathology. Dr. Paul H. Charlton was appointed Resident Physician at University Hospital. Dr. Ben R. Kirkendall was appointed Instructor in Surgery.

RESEARCH

The Department of Pathology conducted 116 necropsies during the year. Various members of the faculty have contributed articles of scientific value to the various medical and research publications in addition to making addresses before scientific societies in various places. Among others Dr. R. G. Hoskins, Professor of Physiology and a recognized authority on endocrinology, during the Christmas holidays, gave a series of lectures before several medical societies on the Pacific Coast. Many members of the faculty have also appeared before local medical societies in Ohio. In addition to maintaining high standards of teaching and improving the general character of courses given in the Colleges of Medicine it is understood that various instructors will give at least a minimum amount of time to research in their particular field. The Medical College does not fulfill its full function unless its faculty and students are interested in adding to the sum total of available information. While it is understood that the primary purpose is the training of competent medical men for practice, it is also recognized that if the science is to progress a certain number of medical graduates must be turned into the field of research and teaching as their life work. The following is a partial list of the papers on research published or that are well under way:

- The Origin of the Cerebral Ganglia in the Anura.
- The Origin of the Central Nervous System in the Urodeles.
- The Disappearance of the Lateral Line Ganglia in the Urodeles.
- The Origin of Cerebral Ganglia in the Urodeles.

It is generally agreed among neurologists that some of the most important and difficult problems in connection with the origin and development of the central nervous system in man must be cleared up by research in such groups as referred to above.

- The Effects of Formaldehyde on the Vitamine Content of Fresh Milk.
- The Relation of Adrenalin to Muscular Efficiency.
- The Effects of Desiccated Mammary Gland on Menstruation.
- The Effects of Temperature on the Vasomotor Reactions to Adrenalin.
- The Relative Sensitiveness of Blood Pressure and Gastrointestinal Peristalsis to Minimum Doses of Adrenalin.
- The Relation of the Adrenal Glands to Metabolism.
- The Blood Sugar Curve Following Intravenous Injections of Glucose at a Constant Rate.
- Reflex Adrenal Secretion.
- The Knee Jerk and the Effects of Various Factors Upon It.
- The Quantitative Determination of Phosphorous in the Blood.
- Saponin.
- Sarcoma of the Uterus.

Adenomyoma of the Tube.

Tumors of the Adrenal Gland.

Endothelioma of the Brain.

Domestic Carbon Monoxide Poisoning from Gas Stoves.

GRADUATE CLINICS

In June of 1922 the faculty of the College of Medicine presented a series of medical and surgical clinics immediately preceding Commencement. These clinics were so favorably received by the medical alumni of the University and by the medical profession of Central Ohio that it has seemed desirable to offer them again this year. It is hoped that these clinics will become an annual feature.

The clinics are held primarily for the benefit of the alumni of the College of Medicine, which now includes all the graduates of Columbus Medical College, Starling Medical College, the Ohio Medical University, and Starling-Ohio Medical College. All other physicians are of course welcome and are cordially invited to attend if they so desire.

This year the clinics were held on Thursday and Friday, June 7th and 8th, and Saturday morning, June 9th. They immediately preceded the regular Alumni-day celebration at the University, which was held on Saturday afternoon and evening, June 9th. In 1922 several separate class reunions were held among the Medical College graduates and other reunions were held this year.

Few of the clinics presented were operative in character but were primarily for the discussion of the problems of diagnosis, which will be helpful to the general practitioners of medicine. Emphasis was also given to the matter of the approved and accepted methods of treatment.

This year, in addition to the general clinics offered last year in Medicine and Surgery, there were demonstrations in the field of Eye, Ear, Nose, and Throat work and Obstetrics, bearing in mind the relation of these specialties to the general practice of medicine. The following is a list of the clinics and the faculty members giving them:

Prostatic Hypertrophy—Dr. C. S. Hamilton, Professor of Surgery; Dr. H. O. Bratton, Instructor in Surgery.

Cardio-vascular Clinic—Dr. E. F. McCampbell, Dean, College of Medicine.

The Truth About Radium Therapy, Exhibition of Cases, Application of a Treatment—Dr. Ben B. Kirkendall, Instructor in Surgery.

Cases Illustrating Affections Frequently Met in General Practice; Cases illustrating end results in eye, ear, and throat surgery—Dr. Hugh Beatty, Assistant Professor of Oto-Laryngology.

Nose and Throat Clinic—Dr. Andrew Prout, Assistant Professor of Oto-Laryngology.

Cancer of the Prostate—Dr. E. A. Hamilton, Assistant Professor of Surgery.

A Symposium on Pneumonia—Dr. E. J. Gordon, Assistant Professor of Medicine; Dr. Ernest Scott, Professor of Pathology; Dr. R. G. Hoskins, Professor of Physiology.

Obstetric Clinic—Dr. Andrews Rogers, Professor of Obstetrics.

Demonstration by Operation of a Technique for Correction of Uterine Retroversion—Dr. Yeatman Wardlow, Professor of Clinical Gynecology.

Pre-cancerous Lesions of the Cervix. with lantern-slide demonstration—Dr. Phillip J. Reel, Instructor in Surgery.

Methods of Diagnosis in Chronic Diseases of the Abdominal Organs—Dr. J. D. Dunham, Assistant Professor of Medicine.

Oto-Laryngology—Dr. J. E. Brown, Professor of Oto-Laryngology.

Cardio-renal Disease—Dr. Lear Van Buskirk, Instructor in Pathology.

Certain Phases of Surgical Correction of the Paralyzed Limb Following Infantile Paralysis—Dr. A. M. Steinfeld, Assistant Professor of Surgery.

The Value of X-Ray in the Diagnosis of Intestinal Stasis—Dr. Hugh J. Means, Assistant

Professor of Surgery.

Some Surgical Diseases of the Breast—Dr. I. B. Harris, Assistant Professor of Surgery.

Industrial Surgery of Today—Dr. J. W. Means, Instructor in Surgery.

Heart Clinic—Dr. H. B. Blakey, Assistant Professor of Medicine.

Nose and Throat Clinic—Dr. A. M. Hauer, Assistant Professor of Oto-Laryngology.

The Acute Surgical Abdomen in Infancy—Dr. L. L. Bigelow, Assistant Professor of Surgery.

Primary Anemias—Dr. H. A. Minthorn, Instructor in Medicine.

The Diagnosis and Treatment of Perforating Ulcers of the Stomach and Duodenum—Dr. L. V. Zartman, Instructor in Surgery.

Exhibition of Ward Cases for Surgical Diagnosis—Dr. V. A. Dodd, Professor of Surgery.

A Lantern-slide Demonstration of Cutaneous Lesions of Syphilis—Dr. W. N. Taylor, Instructor in Surgery.

Recent Developments of the Cancer Problem—Dr. Francis Carter Wood, Professor of Pathology, Columbia University.

MEDICAL EDUCATION AND MODERN MEDICINE

It is recognized that the practice of modern medicine now requires a basis of general science—chemistry, physics, and biology. A fair knowledge of the principles underlying these subjects is fundamental to a correct understanding of every subject with which the modern physician must deal. As a matter of fact an understanding of physics and chemistry is basic to an appreciation of the principles of all the sciences.

The consideration of the human body in health and disease from the standpoint of form, function, and life is a biophysio-chemical problem. It has been generally agreed for many years by all those giving thought to the problems of medical education that the student should have a thorough training in chemistry, physics, and biology in the pre-medical course. In addition to the subject content there is provided training in observation, technic, accuracy, and method of management. Furthermore what is still more important, if these subjects are presented by trained teachers, a discipline of mind is developed which calls forth logical reasoning and criticism and the application of careful judgment.

For several years the entrance requirements to the College of Medicine have included two years of college work—of which chemistry, physics, biology, foreign language, and English were the principal subjects. Two propositions prompted the recommendation to the Board of Trustees limiting the number of students entering the College of Medicine which becomes effective with the opening of the Fall Quarter 1923. The first, the finding that 75 to 80 students were the maximum number for which the most complete and thorough training could be provided based on the facilities of the College and the accepted standards of medical education. And the second, a desire on the part of the faculty to provide the University Examiner the opportunity of selecting the entrants on a basis of character and pre-medical scholarship as indicated by point credits. The faculty has been particularly concerned with high-grade scholarship in chemistry, physics, and biology in order to insure the so-called scientific viewpoint as discussed previously and reduce to a minimum the number of students who, because of inadequate training, have failed to pass the required work in the medical college. Many students complete the pre-medical requirements in the College of Arts but find it impossible to carry on the subsequent medical courses. Rarely, however, does a student fail in the College of Medicine who has maintained an average or better point-credit standard in the pre-medical courses in the College of Arts.

It is perhaps well to reflect briefly on the evidences of progress in medicine, in addition to those which are being made strictly in the field of medical education. The modern medical school should be prepared to give adequate fundamental instruction in all medical subjects. There have been developed in recent years many instruments of percision and much laboratory apparatus and many new laboratory methods for scientifically studying cases. All these should be supplementary. The student must be trained to use the hands, eyes, and ears in determining the condition of the patient. He must be able to evaluate the past and subjective history and the physical findings. He must be able to develop adequate clinical skill and clear judgment on which really rests his competence as a practitioner of medicine. The training of a physician is now conceded to be a matter which affects the state and the community as a whole. It is not purely an individual matter between the physician and the patient. The public while not particularly discriminating in the choice of medical practitioners in the past is becoming more so as time goes on. The various hospital clinics and dispensaries, both pay and charity, are now being attended by a class of people who formerly were content to employ physicians of mediocre training—the group who rely wholly on their intuition in diagnosis, and the advertising literature of the drug companies for their therapy, who make no attempt to use any modern methods or read the current medical literature or attend the meetings of the medical societies.

A curious paradox is observed, however, with a certain proportion of the more intelligent as well as some of the non-thinking public. In recent years there has come into being a large group of limited or irregular practitioners and cults. Those who seek to practice have no training worth consideration in either fundamental science or medicine. They are known by a variety of names and have a variety of different types of training ranging from six weeks to four college years. Some are called Readers, others osteopaths, chiropractors, mechano-therapists, spondylotherapists, nature healers, and the like and they number among their clientele some of our most intelligent people. In many states this inadequately trained and irregular group is recognized and licensed to practice with certain limitations. Now, the facts are that the line of treatment which is promulgated is quite different from that which the modern physician is prepared to give, consisting as it does of suggestion, often under the cloak of religion, of massage, and body manipulation. Psychotherapy or suggestion and massage have long been recognized as effective therapeutic measures by the medical profession. The recent war has also developed this field in connection with the work of rehabilitation of disabled veterans. Medical colleges have however only in rare instances given any instruction to medical students in these fields. We cannot gainsay the need of this type of instruction if the public is to be protected against various form of charlatanism from ignorant and inadequately trained limited practitioners and still be provided with this effective line of therapy which is applicable in many cases. For some years the College of Medicine has been giving limited instruction in psychotherapeutics and a new course is to be opened for the ensuing year in physiotherapeutics to include instruction in massage, electro-therapeutics, mechano-therapy, helio-therapy, etc.

As one views the progress in recent years consideration must be given the marked advances made in the field of so-called public medicine—public

health and sanitation, including industrial and child hygiene, government aid and supervision of maternity, accident, and health insurance, etc. More and more the medical practitioner is becoming by the very nature of the demand made upon him, a public servant. He is becoming less individualistic and his field of practice is "the world of men and affairs," as Sir George Newman has so clearly stated. Obviously the cure of disease by drugs and other therapeutic procedures including surgery must always receive the first consideration but the prevention of disease, the limitation of morbidity, the reduction of mortality, the extension of life and capacity are clearly fields of study in which the modern physician must engage himself. The medical school which fails to provide adequate instruction in the field of preventive medicine fails in its duty to the state and the country. It is true that the field of public health has now become so broad and comprehensive that postgraduate instruction for those who wish to specialize in this field is necessary. Nevertheless the graduate of today must have sufficient instruction along these lines to develop an appreciation of the needs of mankind and a proper attitude toward them.

The College of Medicine was one of the pioneers in providing instruction along these lines and in 1915 also opened certain graduate courses in Public Health and Sanitation. I am quite clear, however, that in Ohio State University as elsewhere, with few exceptions, the general subject of the prevention of disease has not been given the consideration which it merits and which a full sense of obligation of the needs of the public warrants. This has been due largely to two factors—(1) lack of finances to provide the necessary instruction, (2) the impossibility of extending the hours of instruction because of the distribution of subjects in the medical curriculum. The Board of Trustees has recently supplemented the instructional staff in the Department of Public Health and Sanitation for the ensuing year and it is hoped that the necessary changes in the curriculum may be made to materially extend this field of instruction to medical students. The extension of the public-health movement has brought about the demand for the public nurse as well as the public physicians. The various hospital training schools of nurses in the first instance are not graduating sufficient nurses to meet the demands of both public and private practice. A great proportion of the population cannot afford the nursing care so often necessary because of the burden of fees now demanded. Again, it would appear in certain quarters that the shortage of graduate nurses is made more acute by specialization involving types of cases and a desire to work under certain physicians, demands for certain hours of duty, failure to register as available except as indicated by the pleasure of the individual. The public has a right to adequate nursing service. If cost prevents the employment of graduate nurses then this service should be provided by women of limited training whose opportunities and availability for service should be limited by law after due examination and supervision. It is imperative that this question of the training of women in various hospitals for limited periods of time must receive consideration from those interested in this type of medical education if the public is to be adequately served. The Public Nurse in addition to being in the main an exponent of preventive medicine does in many instances render limited nursing service to the public and thus provides to a certain degree, as her time

permits, that therapeutic procedure which in many instances is the most effective key to rapid convalescence and recovery.

The College of Medicine long ago recognized the obligation to the public in the training of the public nurse and has been giving postgraduate instruction to graduate nurses along public-health lines. Also combination co-operative courses have been offered in Home Economics-Science Nursing and Education-Science Nursing leading to a degree and a certificate in Nursing in five years. The University Hospital also maintains a three-year course of training for nurses. Recently there has been issued by the University a complete and comprehensive bulletin covering the four types of nurse-education provided at Ohio State University.

The Department of Public Health in the College of Medicine in addition to carrying on work as outlined above in the College of Medicine has been doing a considerable amount of instruction in other colleges of the University. During the year just closed the registration was 416 students in 15 undergraduate courses and seven in graduate courses exclusive of those taking nursing courses. The members of this Department have been especially active during the year in giving public addresses dealing with the subject of preventive medicine in its various phases as well as in the publication of various articles dealing with this line of work.

THE MEDICAL CURRICULUM AND MEDICAL TEACHING

In recent years there has been considerable discussion in medico-educational circles as to the proper content and co-ordination of the medical curriculum. There has been a feeling among some that proper co-ordination does not exist between the auxiliary fundamental sciences in the pre-medical courses such as physics, chemistry, and biology and the strictly fundamental medical courses such as anatomy, physiology, physiological chemistry, pharmacology, and pathology. The application to clinical medicine should be pointed out. Also it seems that the clinical subjects—medicine, surgery, obstetrics, et al—should be taught with greater emphasis on the above preliminary and fundamental subjects. In other words, it is felt that there should be more anatomy, physiology, pathology, and the like in the teaching of the clinical branches. Again, medical curricula have been criticized because the student is not brought into closer contact with actual patients earlier in the medical course instead of concentrating studies of this kind in the last two years. Our attention has also been directed to what has been referred to as the "overcrowding" of the curriculum both as to hours per subject and as to actual subjects. It has been suggested that several of the subjects now included in most of the curricula might well be omitted and taken up in connection with graduate study which is so essential with the proper preparation of those who would specialize. Finally there are those who believe that the fixed requirements of the medical curriculum should be reduced and more hours opened for electives thereby allowing the student the opportunity to follow out a limited amount of specialization.

Some few months ago I appointed a committee of the faculty of the College of Medicine to critically study the curriculum now in operation and make such changes and recommendations to the faculty as might seem proper. This committee has had numerous meetings and hearings and will be prepared to submit a report to the faculty during the Fall Quarter of 1923.

In connection with this general subject, I desire to offer the following comments and observations. It would appear to be almost imperative, bearing in mind the practice of scientific medicine at the present time, to give intensive and comprehensive attention to the so-called integration of the subjects of chemistry and physics into the subjects of physiology, and pathology and the integration in turn of these subjects into the various branches of clinical medicine. That is, students must be taught to know clinical cases from the standpoint of the abnormal physiological processes involved and from the standpoint of the pathology which presents itself. These subjects must not be taught independently but teachers must co-ordinate their work. The fundamental subjects should be presented in principle and not be overburdened with detail. Medical students can acquire and understand only a limited amount of the medical knowledge presented. The effective medical teacher gives attention both to the quality and the quantity of the material which is presented. Excessive detail precludes the possibility of appreciation of fundamental principles. Therefore the aim of the model medical curriculum should be the presentation of the different subjects logically and in proper and studied co-ordination from the standpoint of the underlying principles. As stated in my last report it is impossible to produce a successful medical practitioner after six years' college training but the aim of every medical college should be to procure an individual so trained that he or she has a comprehensive knowledge of fundamental principles and general technique—one who is self-reliant, who has good comprehension and judgment, and reasonable skill.

In this connection I am led to make a few comments on the medical teacher who, of course, should be no different from any other teacher. It would appear that many teachers are overly enthusiastic, overspecializing as it were in certain phases of their subjects, going into definite detail on certain matters in which they themselves are particularly interested and obviously failing to present the underlying principles which the student can understand and retain. Medical teachers and others engaged in teaching in the various professional schools are perhaps open to a certain amount of criticism because many have never given any attention to the methods and principles of education. Often the most competent individual professionally is an indifferent instructor and in no sense an educator who can evaluate the capacity of the students. Standardization and improvement of teaching methods is constantly receiving the attention of the various departments of the College of Medicine. The most marked improvements have been noted in various clinical departments. Departmental meetings have been held for the discussion of teaching problems. Investigation of methods of teaching by personal visits by various faculty members to other medical schools has been extremely beneficial and should be encouraged. It is also quite evident that teachers of clinical subjects should make every effort to familiarize themselves with the progress in physiology, pathology, pharmacology, and anatomy in order to make the most effective applications of these subjects in their teaching.

Several medical schools have changed their curricula so as to provide for the teaching of the clinical subjects to a limited degree in the first and second years of the regular four-year course as well as during the last two years. The principal points to be gained seem to be (1) a desire to stimulate the

students by making them feel that they are actually studying medical and surgical cases rather than only animals, the cadaver, and dead tissues; (2) an effort to vitalize the fundamental medical subjects by showing that all disease is really abnormal anatomy (pathology) and abnormal physiology. Some medical educators even propose going so far as to distributing the so-called fundamental subjects throughout the entire four years. There appears to be some objections to the above plan which I am of the opinion are valid. It is an accepted principle in education—and particularly professional education—that the prerequisite to the application of knowledge of a subject is a sound comprehension of the fundamentals. This having been acquired the student must learn the means of detecting abnormalities in form and function. This is physical diagnosis—the foundation stone of clinical practice. The exact diagnosis is the basis for a rational therapy. The present curriculum of the College of Medicine has been built essentially with regard to the above view believing also that sound and rather exacting training in the fundamental medical sciences is a prerequisite to a clear understanding of the clinical courses and recognizing that in this exacting training there is also provided, to a limited degree at least, those other attributes so essential to a successful medical practitioner, namely, the power of clear thinking and analysis, the power of self-reliance. The faculty has the distinct feeling that vitalizing of the subjects of anatomy, physiology, physiological chemistry, and the like can be quite readily accomplished by the medical teachers involved if they give constant attention to the development of the clinical applications and if the clinical teachers advise themselves as to the rapid development of the fundamental sciences. It is perhaps wise to introduce a limited amount of clinical teaching and observation into the medical course as early as possible, but this should be done principally in connection with the teaching of physical diagnosis and minor surgery.

As to the reputed "overcrowding" of the medical curriculum in hours per subject and in subjects proper and the limitation of electives, the faculty of the College of Medicine and its committee have given thoughtful consideration and there is a possibility that minor changes may be accomplished which will serve to reduce to a very limited degree the hours per subject in a few courses. There will then be offered the opportunity for still additional electives and also the possibility of extending certain of the courses in the specialties by providing postgraduate instruction in them. It is clear that the electives provided should be general in character. They should deal with extension of the fundamental courses in all the four years and in no instance should the opportunity be provided for intensive specialization which is now conceded to be only within the realm of postgraduate study.

UNIVERSITY CLINICS

The majority of the clinical work of the College of Medicine is carried on at the State Street Dispensary, St. Francis Hospital, the Starling-Loving University Hospital, and at Children's Hospital.

In addition to the obstetrical work carried on in the Maternity Pavilion of the University Hospital, clinical work is also given in three maternity homes—The Friends Home, the Elizabeth Home, the Price Home for Colored, and beginning in the fall the Florence Crittenton Home will be added. Maternity clinical service is carried on in the Out-patient Department in co-

operation with the District Nursing Association. Service is also provided by the College of Medicine for four prenatal clinics maintained at the Godman Guild, the South Side Settlement, St. Paul's Church Settlement, and the State Street Dispensary. During the last year the attendance at these prenatal clinics was 417 prospective mothers. The total number of obstetrical cases delivered in the entire clinic was 388. The total deaths in this clinical service was one mother and eight babies due to abnormalities. An interesting feature of the importance of prenatal clinics and the subsequent visitation of patients by the District Nursing Association as well as the importance of infant-welfare clinics is shown by the following statistics: Of 78 mothers who received instruction previous to the birth of their children in prenatal clinics and by visiting nurses only one baby died. Out of 26 patients delivered in the Out-patient Department who had received no instruction and who called upon the service only as a last resort when labor was impending seven babies died. The Visiting Nurses attached to the obstetrical clinical service made a total of 1370 visits during the year.

The State Street Dispensary has had an unusually successful year under the supervision of Dr. E. J. Gordon. The total number of visits for the year was 16,436 distributed through the various departments. The Dispensary is open from 3:30 to 5:00 on five days a week as well as two evenings from 7:00 to 9:00 and Saturday afternoon. Especial attention should be directed to the Public-health Venereal Clinic in charge of Dr. Taylor and Dr. Reel. This clinic is rendering an unusual service. The total visits for the year being 8904. The orthopedic clinic was started during the year and has proven to be one of the best in the Dispensary. It is in charge of Dr. Steinfeld and Dr. Farrer. The pediatric clinic has been expanded and is now held four mornings a week at the University Hospital and in addition three periods a week at the State Street Dispensary.

The Ward clinics conducted at St. Francis Hospital showed a total number of admissions of 1954 during the year. The deaths taking place in this hospital during this time were 144, many of these occurring within the first 24 hours, the majority being due to violence. St. Francis Hospital is the leading emergency hospital of the city, receiving the majority of the police cases as well as emergencies of other kinds. Accordingly the mortality rate is rather high, being 7.5.

The College of Medicine assumed charge of the University Hospital on August 15, 1922. At the close of the year ending June 30, 1923, the total number of admissions was 1700 with 66 deaths of which 20 were within the first 48 hours, due to violence and emergency operations. The mortality rate for the year is 2.7; the total number of hospital bed days is 22,196. During this time 701 operations were performed, 1000 X-ray pictures were taken, and 5523 laboratory examinations were made, 27 necropsies were performed. The hospital per capita food cost per day averages 55 cents.

The hospital also maintains a Training School for Nurses. This training school was completely reorganized subsequent to August 15, 1922. An entirely new staff of graduate-nurse supervisors and instructors were appointed. During the year eight nurses received certificates of graduate nurses and 10 probationers entered training. The curriculum of the training school has been completely revised to conform to the highest requirements. All nurses have been placed on eight-hour duty after their period of probation and only

graduates of Class A high schools are accepted. With the proposed development of the University Hospital it is obviously necessary to increase materially the total number of nurses in training. This can be very easily done providing adequate housing quarters are available. At the present time the nurses are required to live in three different residences. Conditions are crowded and supervision and discipline are difficult. One of the most urgent needs at the present time is a nurses' home in connection with the University Hospital.

Attention should be directed to the fact that during the last year the University Hospital has been run to a very large degree as a teaching hospital—a laboratory for the instruction of medical students under careful supervision. The clinic in variety of cases has been most satisfactory. The hospital is very much limited in its private-room capacity. Many of the private rooms must of necessity be used for certain types of clinical cases. The staff has found itself seriously embarrassed because of the inability to concentrate its private work in the same institution where they are carrying on clinical teaching. With the expansion of the University Hospital as proposed by the Board of Trustees this difficulty will be largely obviated and it will be possible to increase very materially the income of the hospital from private cases. The income of the hospital for the period August 15, 1922, to July 1, 1923, was \$20,370.82. The hospital has been somewhat embarrassed because of lack of funds for equipment. It is strongly urged that adequate provision be made for equipment and supplies. A definite annual appropriation for this purpose should be requested from the Legislature if the highest standards of teaching are to be maintained and the highest type of service rendered.

MEDICO-MILITARY SCIENCE

The activities of the Department of Military Science and Tactics of the College of Medicine are worthy of attention. A Medical Unit of the Reserve Officers' Training Corps is maintained. Forty-three medical students enrolled for and completed the Advanced Course during the last year. These students were members of the senior, junior, and sophomore classes. At the end of the last school year seven senior students received commissions as First Lieutenants in the Medical Section of the Officers' Reserve Corps and were assigned to the 305th Medical Regiment, 83rd Division. The remaining students will be commissioned on their graduation from the Medical College. Eight students attended the six weeks' medical-training camp at Carlisle Barracks, Pa., during June and July. The remainder of those enrolled attended this camp in the summer of 1922 or were excused from attendance by reason of their service in the Army during the late war. The Medical Unit is in charge of Major H. R. Beery of the Medical Corps, United States Army.

RECOMMENDATIONS

The following recommendations are respectfully submitted:

- (1) That the attention of the Ohio College Association be called to the importance of demanding the highest type of scholarship from those students taking pre-medical work in chemistry, physics, biology, and foreign languages, careful attention being given to the matter of the grading of these students in order that the University Examiner in evaluating point credits at the time of entrance into the Medical College may not commit any injustice in the

comparison of this group of students with the students who have taken their pre-medical work in the College of Arts, Ohio State University. Most Ohio colleges now use the A, B, C, D, and E system of grading but it is rather important that percentage values given to these grades be practically the same in all colleges.

(2) That it be recommended to the various colleges who are carrying pre-medical work and who are members of the Ohio College Association that these colleges recognize the work given in the first and second year of the College of Medicine, Ohio State University, as being equivalent to the junior and senior years in the respective colleges in order that students from these colleges may obtain the degree of Bachelor of Arts or Bachelor of Science as is now possible under the six- or seven-year combined curriculum carried at Ohio State University.

(3) That more adequate appropriations be granted by the Board of Trustees for the maintenance of the University Clinics and especially the University Hospital. The only reason for maintaining these clinics and the hospital is as teaching laboratories. The expense of maintenance at the present time is largely taken care of by the laboratory fees of medical students and by the income derived from private patients. The sum thus provided is not adequate to carry on the work with the highest degree of efficiency and without considerable embarrassment. It is recommended that the Board of Trustees request a special appropriation from the Legislature for this purpose, as is the plan followed by most state universities maintaining medical colleges.

(4) It is recommended that immediate consideration be given by the Board of Trustees to the absolute necessity for providing adequate housing facilities for the nurses who are members of the training school in the University Hospital. It is recommended that the Legislature be requested to appropriate not less than \$200,000 for the building of a nurses' home.

(5) It is recommended that the Board of Trustees request an appropriation of not less than \$500,000 to complete the University Hospital as it is now planned and that an additional sum of \$100,000 be requested for equipment.

Very respectfully yours,

E. F. McCAMPBELL, *Dean, College of Medicine.*

REPORT OF THE COLLEGE OF PHARMACY

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report of the College of Pharmacy for the year ending June 30, 1923.

ENROLLMENT

The enrollment in the College continues to show a distinct increase and the past year marked the highest registration in any period of the school's history when 285 students were enrolled. Of this number 14 were women and 271 men. A number of applicants were refused admission for the reason that they could not meet the entrance requirements now in force. In tabulating the foregoing list of registrants it was interesting to note that but two were admitted under the old law requirements as special students. In addition a number of those admitted were either graduates holding baccalaureate degrees or had spent from one to two years in general college training.

PROGRESS

It is a matter of great satisfaction that we are able to continue to report on the general high standards of educational requirements demanded not only by law, but also by the examining board before one is permitted to register as a pharmacist in the state. To keep ahead of these requirements is one of our chief aims. That we are doing this is evidenced, we believe, by the success of our graduates not only before the examining board, but also in actual practical work.

While we are now offering a four- and a two-year course of instruction it possibly should be noted that we are looking forward to the establishment, in the near future, of a minimum three-year course. All the schools holding membership in the American Conference of Pharmaceutical Faculties are pledged to a minimum three-year course in 1925. If we are to retain our membership in the conference we must meet this requirement. While the question of a possible change in our present prerequisite law to conform to the proposed three-year minimum requirement has not been brought before the State Pharmaceutical Association for consideration the question has been, however, informally discussed with quite a number of pharmacists. In these discussions there has been some difference of opinion as to the need of such a requirement. In view of this there is a question of doubt as to whether the matter will have the undivided support of the state association. The question may well then be asked as to the advisability of the College adopting the minimum three-year course. The reply, however, is not easy, unless we give some of the reasons advanced in support of the requirements at the time of its adoption by the conference. It is quite obvious that this will be an impossibility in a report of this character. The objections of course are largely those frequently advanced in opposition to most forward and advanced educational movements. However, we feel that the extra year's training proposed will not only tend to raise the quality and quantity of training, but that it will produce not only better trained, but safer and better-qualified dispensers. Surely a condition to which no one needing such service could reasonably object.

FACILITIES

In the assignment of the laboratory space, made vacant by the moving of the freshman chemistry to the new chemical laboratory, we were quite fortunate in obtaining one of the large laboratories. This has more than doubled our laboratory facilities and made it possible to accommodate the increasing number of students. In fact it would have been impossible for us to adequately care for our increasing number of students without the increased laboratory space. On this account we were able to add some new and much-needed equipment both in the pharmacy and pharmacognosy laboratories. We feel, therefore, that the coming year will find us ready not only to care for an increased number of students, but to provide greatly increased facilities and a better and more efficient instruction.

FOUR-QUARTER PLAN

The work of the year just closed has been based on the new Four-quarter Plan. While the work of the College of Pharmacy, in common with the other professional colleges, is based on but three quarters the curricula have been adjusted to the plan. We have made every effort not only to adjust and co-ordinate the work to the plan, but to carry out in the three quarters the spirit and intent of the plan. To this end whenever possible we have repeated our basic courses each quarter. This has made it possible for new students to enter each quarter and we may add that quite a number have already availed themselves of this opportunity, and undoubtedly an increasing number will continue to do so as the work is better organized. It has not been possible to repeat all courses for the reason that the teaching schedule of the instructors would not always permit the scheduling of such classes. The granting of a new instructor this year has helped very materially in the adjustment of the schedules and enabled us to offer some of the repeat courses.

While this has helped, the teaching load of the instructors has been greatly increased and it is very doubtful if we can very materially increase the number of repeat courses without more help. We feel that even the Three-quarter Plan, under which we have been working, has many advantages and trust that the needed instruction may be provided so that we may be able to increase the number of repeat courses. By so doing we can then better co-ordinate the work and at the same time bring it up to a point of greater efficiency.

STUDENT-HEALTH DISPENSARY

The dispensary service carried on by the College in conjunction with the Student-health Service continues to increase in its scope and in the character of the service rendered. The present plan of the College providing dispensary service for the students enables us to give the pharmacy students a form of prescription practice that is invaluable to them. That we may give some idea of what this service means we might state that the past year the students filled over 3000 prescriptions. From this it will be seen that the experience gained in this way is an invaluable form of training and could otherwise only be obtained in some form of practical experience. In view of these facts we hope to be able to provide a closer supervision of the work thereby increasing its character and efficiency. In this connection we wish to emphasize the fact that the experience so gained has been made possible through the hearty co-operation of the Director of the Student-health Service.

NEW INSTRUCTION

This year we were granted a new instructor in the Department and we were quite fortunate in securing Mr. Charles L. Williams, a graduate of the College of Pharmacy of Purdue University. His work has been of a high order and we have been quite fortunate in having the advantage of his training and experience gained in a sister institution.

The past year we had the honor of serving as president of the American Conference of Pharmaceutical Faculties, an organization made up of a membership from the foremost pharmacy colleges of the United States. The annual meeting was held in Cleveland last year and at that time we had the honor of presenting the annual president's address "On Some Problems of Pharmaceutical Education."

Respectfully submitted,

CLAIR A. DYE, *Dean.*

REPORT OF THE DEAN OF THE COLLEGE OF VETERINARY MEDICINE

PRESIDENT W. O. THOMPSON, *Ohio State University:*

DEAR SIR—I have the honor to present to the President and the Board of Trustees the annual report for the College of Veterinary Medicine for the year ending June 30, 1923:

ENROLLMENT

During the academic year there were enrolled in the College of Veterinary Medicine 79 students. Four graduate veterinarians, taking work in the College, and candidates for the Master's Degree, are credited to the Graduate School. The total number of students in the 12 state and provincial veterinary colleges of the United States and Canada was, during the past academic year, 650. Our enrollment is slightly exceeded by Cornell and Iowa.

It is believed that from now on the enrollment in veterinary schools will gradually increase with the increasing production of a different type of veterinarian who, because of his longer and more profound training, can give great service, there will develop among the livestock owners a conviction of the real economic value of such service. Not a few veterinarians fail in patronage because they lack in general education and in professional training. Many of the livestock owners of today are well-educated, intelligent men. They are also practical men. They are better able to judge of a man's qualifications than were their predecessors. Consequently when they can avail themselves of the services of an efficient veterinarian they will do so. Thus will veterinary practice be increased. Not a few veterinarians have retired from the profession, or, stating it more accurately, the profession has retired from them. Almost without exception these men, while able to give some service in dealing with the diseases of the horse, failed to meet the demand of the present-day animal husbandman who includes among veterinary patients even poultry.

The livestock industry of the United States is an enormous industry. Its greatest menace is disease. The stockman, no matter with what kind of livestock he may be dealing, must keep up a continuous battle against disease

which seriously threatens his herds and flocks. In fact the very existence of the livestock industry depends upon keeping animals free from disease. This constitutes a great practical problem, to cope with which is required that some group of men, who by education, training, and experience are capable, must find its solution. As yet only one group exists which is competent in the premises. This group is the veterinary profession.

FACULTY

No changes in the teaching staff were made during the past academic year. It is hoped that the senior members of the staff will be continued in the University service as long as they are efficient.

The clinical facilities, developed by Dr. Brumley, have so increased that we are now able to give our students clinical instruction unsurpassed by any veterinary institution on this Continent. Between 7000 and 8000 animals of all species are treated annually in the Veterinary Clinics.

The operations of the Veterinary Clinics come under three divisions:

(1) Stationary or Hospital Clinics. In this clinic animals are received at the hospital for medical or operative treatment or both and returned at once, or the patient is retained in the hospital, if its condition warrants it,

for daily treatment and observation. All classes of animals were represented in this division of the clinics. Perhaps three-fourths of the clinics are patients that remain in the hospital for different periods either for operation or treatment. These clinics are maintained the entire year so that the greatest degree of efficiency may be maintained and the maximum value given to the student. The clinicians have in mind utilizing the clinical material as far as possible for instructional purposes.

(2) Ambulatory or Out-patient Clinics. Several years ago it was decided to maintain an out-patient clinic for the instruction of students in a regular routine practice, believing this method would give them a certain experience that could not be gained in any other way and would be of the greatest value to them after graduation, providing they desired to practice veterinary medicine. As a result during the past year nearly 2000 cases were treated, which included principally horses, cattle, hogs, and sheep. When calls are made to treat these patients students are taken along. The instructor in charge explains the condition and outlines the procedure necessary in handling the case. In this manner the students have been greatly benefited in seeing and handling many cases in large animals which ordinarily could not be brought to the hospital. This phase of clinical work will be increased as rapidly as possible for it is generally conceded that it is of inestimable value to the student to properly fit him for routine practice.

(3) Clinical Diagnosis Laboratory. In order to make the clinics more efficient, and to give the public better service and at the same time instruct students more thoroughly in the diagnosis of diseases, a clinical diagnosis laboratory was established during the past year. This laboratory has been in actual operation about seven months and approximately 2000 different examinations have been made which consisted mostly of the following: Examination for external parasites, examination for internal parasites, agglutination tests for abortion disease, examination of secretions, examination of excretions, bacteriological examinations to establish diagnoses, inoculation of animals for the same purpose, testing for poisons, feeding experiments to

determine toxicity of materials, making and applying autogenic vaccines, making distemper bacteria, investigation of specific diseases. It is expected to greatly augment this phase of clinical instruction during the next year.

Although our records show a total of 6342 animals handled this does not include the different conditions affecting individual animals nor the other operations in connection with the laboratory. All of the clinics combined would total approximately 10,000 to 11,000 conditions.

A detailed report is not made as it would be too voluminous in a statement of this kind and furthermore such a report is printed each year so that it is made available to anyone interested.

Dr. Goss, who has charge of the work in pathology, furnishes an interesting report of what has been accomplished under his direction during the past year. It follows:

The following necropsies were held during the year:

Equine.....	27
Bovine.....	22
Ovine.....	38
Porcine.....	52
Canine.....	540
Feline.....	63
Avis.....	343
Sepine.....	5
Turkey.....	5
Duck.....	2
Parrot.....	2
Swan.....	1
Peafowl.....	1
Canary.....	1
Fox.....	2
Guinea pig.....	1
Total.....	1105

During the first part of the year (July to October) the skin and fecal examinations were made in the Pathological Laboratory, during which time the following examinations were made:

Dog:

Negative.....	101
Belascaris ova.....	100
Taenia ova.....	64
Ankylostoma ova.....	39
Trichuris ova.....	11

Bovine:

Coccidia.....	2
Total.....	317

Skin scrapings:

Negative.....	76
Demodex.....	17
Sarcoptis.....	3
Trichophytosis.....	2
Total.....	98

In addition to the above, 220 agglutination tests were conducted upon the blood of chickens for *B. pullorum*, the causative organism of white diarrhea of chickens; 204 agglutination tests were run upon the blood of cattle for the

infectious abortion disease. Thirty-one thousand c.c. of anti-distemper serum for dogs has been produced from the one horse used for such purpose.

During the year several poultry-disease demonstrations have been conducted in counties of the state.

There has been under way a project for the study of abortion diseases. With the aid of the Graduate School, this work has progressed to the extent that some of the results are to be published during the coming fall.

The museum now contains an excellent collection of specimens showing the diseases of the reproductive organs of cattle and of the diseases of poultry.

The other members of the teaching staff, Doctors Sisson, Snook, Grossman, Shoemaker, Hobbs, Rebrassier, and Hendershott, continue to render service to the student body and the people of the state.

INCREASED FACILITIES AND BETTERMENTS

In former reports I requested that when the Barns and Judging Pavilion were abandoned by the Department of Animal Husbandry, that these buildings be turned over to the College of Veterinary Medicine. This would permit the College to abandon the present laboratory building, which is to be torn down anyway in the next few years, and to occupy quarters better suited to its rapidly developing needs. This suggestion has not been taken seriously by the authorities of the University. The College must, therefore, look elsewhere to provide for its normal physical expansion. Other veterinary colleges, no larger than this one, are expanding; why should we not continue to grow? The State of New York has appropriated \$200,000 for an addition to one of the veterinary buildings at Cornell University; Kansas has just completed a \$150,000 clinic building, and the State of Alabama has entirely rebuilt its veterinary school. It would seem, therefore, that the time will soon come when it will be necessary to abandon entirely both the Veterinary Laboratory Building and the Veterinary Clinic Building and rebuild, probably on the west side of the Olentangy River, the Veterinary College and make it an institution of greater service to the people of the state and nation. The unfortunate location, from the standpoint of the College, of the new Power Plant, and the Stadium practically prohibits any future development of the physical side of the Veterinary College.

As has been stated in many previous reports more money should be made available for original research in the study of the control and eradication of animal plagues prevalent in Ohio. The State Board of Agriculture, and, quite recently, the Agricultural Experiment Station have attempted to do something in this regard to make up for this delinquency on the part of the University. This is extremely unfortunate. Until the authorities of the University take the matter more seriously no organized, constructive plan of research in animal diseases will be possible. In the meantime, and largely due to the rapid development of transportation facilities, the number of different animal diseases is constantly increasing in Ohio. Each year the production of livestock at a profit grows more precarious. There is only one way to meet the situation and that way is to so equip the College of Veterinary Medicine that it may, unhampered by politics, continuously carry on the work in the study of diseases which will be of benefit to not only animalkind but mankind.

Respectfully submitted,

DAVID S. WHITE, *Dean, College of Veterinary Medicine.*

REPORT OF THE DEAN OF THE GRADUATE SCHOOL

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to present to the President and Board of Trustees the annual report of the Graduate School for the year ending June 30, 1923.

STATISTICAL INFORMATION CONCERNING THE ENROLLMENT FOR THE YEAR 1922-1923

Detailed information concerning the registration and number of degrees granted for the academic year 1922-1923, is given in the following table:

	Summer Quarter	Autumn Quarter	Winter Quarter	Spring Quarter	Total Duplicates	Net Total	Degrees Master's	Granted Ph.D.'s
Men.....	317	206	265	304	646	500	94	22
Women....	97	90	88	82	89	268	33	0
	414	350	353	386	735	768	127	22

The distribution of the graduate students according to the departments in which they registered, is given in the following table:

Department	Net Total	Department	Net Total
Accounting.....	7	Latin.....	8
Agricultural Chemistry.....	12	Mathematics.....	22
Agricultural Education.....	8	Mechanical Engineering.....	1
Agricultural Engineering.....	1	Metallurgy.....	2
Anatomy.....	7	Mine Engineering.....	1
Animal Husbandry.....	5	Pathology.....	2
Architecture.....	1	Philosophy.....	9
Bacteriology.....	8	Physics.....	22
Botany.....	18	Physiological Chemistry.....	2
Business Organization.....	9	Physiology.....	3
Ceramics.....	3	Political Science.....	6
Civil Engineering.....	1	Principles of Education.....	19
Chemistry.....	103	Psychology.....	43
Dairying.....	2	Public Health.....	1
Econ. and Soc. Geography.....	3	Romance Languages.....	1
Economics.....	18	French.....	13
English.....	65	Spanish.....	8
Farm Crops.....	3	Rural Economics.....	6
Geology.....	1	School Administration.....	129
History.....	11	Sociology.....	14
American.....	9	Soils.....	3
European.....	13	Veterinary Medicine.....	3
History of Education.....	6	Zoology and Entomology.....	28
Horticulture.....	2	Special Students.....	106

UNIVERSITIES AND COLLEGES REPRESENTED IN THE GRADUATE SCHOOL

In the table below is listed those colleges that have had two or more graduates registered in the Graduate School during the present year.

Name of College	No. of Graduates	Name of College	No. of Graduates
Adrian College.....	2	Oberlin College.....	8
Amherst.....	2	Ohio Northern University.....	25
Antioch College.....	2	Ohio State University.....	305
Baldwin-Wallace College.....	4	Ohio University.....	49
Berea College.....	3	Ohio Wesleyan University.....	48
Bethany College (W. Va.).....	2	Otterbein College.....	19
Bluffton College.....	3	Pennsylvania State College.....	2
Capital University.....	4	Purdue University.....	3
Cedarville College.....	2	Rio Grande College.....	2
Clesmon Agr. College.....	2	Smith College.....	2
College of In. Arts (Tex.).....	2	Toledo University.....	2
Columbia University.....	3	University of Akron.....	2
Cornell University.....	3	University of Alabama.....	2
Defiance College.....	5	University of Chicago.....	2
Denison University.....	26	University of Cincinnati.....	2
DePauw University.....	3	University of Illinois.....	6
George Washington Miss. College....	3	University of Michigan.....	6
Harvard University.....	5	University of Minnesota.....	2
Heidelberg University.....	9	University of Missouri.....	4
Hiram College.....	7	University of Texas.....	3
Hope College.....	3	University of Toronto.....	2
Indiana University.....	4	University of Wisconsin.....	5
Manchester.....	3	Valpariso University.....	2
Marietta.....	6	Wabash College.....	2
Massachusetts Agricultural College...	2	Western College for Women.....	6
Miami University.....	13	West Virginia University.....	5
Mount Holyoke College.....	2	Wilmington College.....	8
Mount Union College.....	8	Wittenberg College.....	11
Muskingum College.....	11	College of Wooster.....	10
Northwestern University.....	5		

Seventy-four other colleges are represented by one graduate each.

COMMENTS ON THE ABOVE STATISTICS

An analysis of the above statistics shows that out of a total registration of 768 students during the academic year of 1922-1923 (four quarters), 589 were graduates of Ohio colleges. Our Graduate School, therefore, is serving very largely the representatives of our own state. However, the number attracted from the universities and colleges of other states is gradually increasing, amounting to 179 during the academic year 1922-1923.

It will be noted that the largest enrollment is in the Summer Quarter and that the Spring Quarter is second in this respect. This is not due to chance circumstances. The increased attendance in the Summer Quarter is to be expected for the Four-quarter Plan offers unusual opportunities to teachers desirous of pursuing graduate work. An increasing number of undergraduate students are completing the work for their baccalaureate degrees at the end of the Winter Quarter and many of these enter the Graduate School at once; this fact accounts for the increased attendance during the Spring Quarter. It is also to be noted that among the teachers it is the men, rather than the women, who are interested in graduate work.

CHARACTER OF THE GRADUATE STUDENT BODY

It is of interest to note some of the groups of students represented in the Graduate School. The following constitute over one-half of the membership of the School:

University Fellows.....	10
University Scholars.....	11
Non-University Fellows.....	8
Members of Instructional Force of the University (part-time assistants)...	153
Public-school teachers, including principals of high schools (approximately)	200
School superintendents (approximately).....	25

It is safe to say that our Graduate School has a smaller number of University Fellows and Scholars than any other university of like standing. The charge often made, unwisely I believe, to the effect that the graduate schools are largely subsidizing their students cannot be made with any justice against the Ohio State University.

FELLOWSHIPS FINANCED BY EXTRA-UNIVERSITY AGENCIES

While the University has made no serious efforts to secure endowments for fellowships, nevertheless a number of such fellowships have been maintained by extra-university agencies. Below is given the list of such fellowships maintained during the year 1922-1923, the name of the Fellow and the stipend.

National Research Council Fellowship—Errett C. Albritton.....	\$2500
National Research Council Fellowship—Merle L. Dundon.....	2300
National Research Council Fellowship—Frank H. Lathrop.....	2500
Sulfur Fellowship (maintained by the National Research Council)—	
Jacob W. Bulger.....	1000
National Lime Association Fellowship—Gerard G. Osterhof.....	650
Young Men's Christian Association Fellowship—John W. Dorst.....	1000
E. I. duPont de Nemours & Co. Fellowship—Carl W. Holl.....	750
Grasselli Chemical Co. Fellowship—Gordon D. Patterson.....	750

THE NUMBER OF ADVANCED DEGREES GRANTED

The number of graduate degrees granted by the University since the organization of the Graduate School is shown in the following table:

	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17
Masters.....	47	58	52	74	109	89
Doctors.....	5	1	2	1	3	11
	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23
Masters.....	51	48	71	96	124	127
Doctors.....	11	6	5	9	13	22

The increase in the number of Master's degrees has made necessary certain changes in the requirements for the degree. The custom of giving an extended oral examination has been abolished by some of our most reputable universities as impracticable when dealing with the large number of candidates presenting themselves. Neither is the thesis requirement so rigidly enforced. Our own regulations provide for the waiving of the thesis requirement but under rather exacting conditions. As a result very few requests of this character have been presented to the Graduate Council and not all of these have been granted. During the academic year 1922-1923, 127 candidates received the Master's degree and all of these, without exception, presented satisfactory theses. We have retained the oral examination, but it is limited to the field of the major study, while more stress is placed upon the final

grades in the departmental courses. While these changes were made primarily because the time was not available for conducting extended oral examinations, yet the results indicate that the new plans in no way forecast a lowering of standards. Indeed it is my own judgment that the new plans require more consistent and thorough work on the part of the student than the old plans.

THE DEGREE OF DOCTOR OF PHILOSOPHY

The fact that 22 candidates received the degree of Doctor of Philosophy during the current year is significant in many ways. It is true that the number is not large in comparison with the number granted by some other universities; nevertheless, the great percentage increase indicates that our own Graduate School is rapidly growing and it is very certain that the number of candidates for the Doctor's degree will increase from year to year. The Four-quarter Plan makes it possible for teachers, by obtaining one year's leave of absence, to spend five quarters at the University and it is only natural that increasing numbers should take advantage of this opportunity. This increase in the number of students applying for the Doctor's degree stands as a real challenge to the University; for in no division of the University work is the danger of worshipping numbers more serious than in the Graduate School. It is imperative for us to keep in mind that our Graduate School will be judged, and rightly so, not by the number of Doctor's degrees granted but by the real worth of the individuals to whom the degree was given.

UNIVERSITY LECTURERS

The Graduate Council has had available a limited amount of money to be used for the advantage of the graduate student body. A portion of this was spent in bringing to the University for one or more lectures eminent scholars in various fields of study. Our student body has been very appreciative of the opportunity thus afforded. The list given below, while not complete, nevertheless serves to show the rather unusual opportunities offered to the graduate students and members of the instructional force. It must be added that some of the lecturers listed were brought to the University by organizations other than the Graduate Council; but they were all of primary interest to the Graduate School.

Thomas Midgeley, Jr., and T. A. Boyd of the General Motors Research Corporation, Dayton, O.; subject, "The Chemical Control of Gaseous Detonation With Particular Reference to the Internal Combustion Engine."

Professor William E. Dodd of the University of Chicago; subject, "Lee and the Confederacy."

Dr. J. J. Macleod, Professor of Physiology of the University of Toronto. Lecture on his discoveries concerning the function of pancreas derivatives in the treatment of diabetes.

Dr. Charles Scott Berry, Professor of Educational Psychology at the University of Michigan; subject, "The Teacher in a Democracy."

Professor C. E. Carter, Miami University. Summary of investigations into certain phases of the Revolutionary Period.

Dr. Arthur S. Loevenhart, Department of Pharmacology and Toxicology, University of Wisconsin; subject, "Biological Oxidation."

Professor W. S. Gamertsfelder, Ohio University; subject, "Mental Attitude in Philosophy."

Mr. Edgar C. Bain, Atlas Steel Corporation, Dunkirk, N. Y.; subject, "X-Rays and Atomic Structure."

Professor Mary Whiton Calkins, Professor of Philosophy and Psychology at Wellesley College; subject, "A Truly Radical Empiricism."

Professor Antonio G. Solalinde of the Centro de estudios historicos, Madrid; three lectures; subjects, "Universal Legends in the Works of Alfonso the Wise," "Various Aspects of Contemporary Spanish Life," "The Significance of the Literary Generation of 1898."

Dr. Arthur L. Day, Director of the Geo-Physical Laboratory, Washington, D. C.; subject, "A New Theory of Vulcanism as Illustrated by the Eruptions of Mount Lassen."

Professor William A. Nitze, Head of Department of Romance Languages, University of Chicago; two lectures; subjects, "Investigations in the Graal Romances," "Art of Moliere."

Professor R. A. Emerson, Head of Department of Plant Breeding, Cornell University; subject, "Mechanism of Organic Heredity."

Dr. Harry N. Holmes, Department of Chemistry, Oberlin College; subject, "Some Applications of Colloid Chemistry."

Professor Charles Edward Merriam, University of Chicago; two lectures; subjects, "Reorganization of Political Parties," "New Approaches to Political Science."

Dr. H. N. Whitford, Professor of Tropical Forestry at Yale University; four lectures; subjects, "Possibilities of Agriculture in the Tropics," "The Forests of the Philippines and Their People," "The Nature of Tropical Forests," "Present and Prospective Use of Tropical Forests."

Professor Stewart P. Sherman, University of Illinois; subject, "Literature and the Social Government."

President David Friday, Michigan Agricultural College; two lectures; subjects, "Promising Problems in Economic Research," "A National Economic Appraisal."

Mr. Henry Higgs (British economist and publicist); subjects, "Economics and Education," "Financial Problems of Europe," "British Post-War Finance"; three lectures.

Professor Lauder W. Jones, Department of Chemistry, Princeton University; subject, "Valence and Electron Valence."

Professor Giuseppe Bruni (Italian scientist); subject, "Italy's Part in Chemical Scientific Development."

Professor W. D. Harkins, Professor of Physical Chemistry, University of Chicago; subject, "The Disintegration of Atoms."

Dr. Paul S. Welch, University of Michigan; subject, "Limnological Investigations on Michigan Lakes: Physical and Chemical Factors Affecting Inland-lake Life."

Professor F. R. Moulton, University of Chicago; subject, "Some Rambles in Space and Time."

Professor James A. Woodburn, Indiana University; subject, "Personalities in Politics."

Dr. Alexander Meiklejohn, President Amherst College; subject, "Democracy and Excellence."

Dr. Samuel McChord Crothers, Minister First Unitarian Church, Cambridge, Mass.; subject, "Establishing a Constitutional Government in the Mind."

Professor J. S. Mackenzie, Litt. D., University of London; subject, "The Threefold Commonwealth."

The Graduate School was also able to assist some of the members of the instructional force in carrying on research work by furnishing the necessary funds. It often happens that research even of the highest type, requires a great deal of routine work—some of which can be performed by student assistants. It seems unfortunate that in many cases professors should be compelled to do this routine labor. The Graduate Council has made an earnest endeavor to find out where service could be rendered in this way and to the extent of the finances available, to furnish the necessary assistance. Some of the instructors aided, together with the nature of the research work, are given below.

William Lloyd Evans, \$200—Molecular Mechanism of the Oxidation of Carbohydrates.

Sidney L. Pressey, \$50—Interest and Ability as Related to Academic Work.

Leonard W. Goss, \$100—Study of Abortion Disease in Cattle.

William Lloyd Evans, \$175—Oxidation Studies.

Charles C. McCracken, \$100—Investigation of the Schools of Logan County and of Bellefontaine.

Sidney L. Pressey, \$50—Vocabulary Studies.

George F. Arps, \$136—Quantitative Determination of Attitudes.

Herbert Osborn, \$100—Homoptera and Meadow Insects.

Edward Mack, Jr., \$100—Physical Chemistry Research.

Roy Graham Hoskins, \$200—The Metabolic Effects of Adrenal Deficiency.

AD INTERIM WORK

The University regulations allow candidates who are in attendance during the Summer Quarters only, to carry on a limited amount of work in the ad interim periods. This opportunity is carefully guarded and the work is supervised and tested in such a way as to secure thorough training. The ad interim work is not obligatory in any way on the part of either the instructor or the student. In many departments the subject of study does not lend itself to such ad interim work. On the other hand, there are departments in which this opportunity is of the greatest value. This is especially so in such subjects as School Administration and most of the students doing ad interim work are majoring in this subject. The number of students registered for ad interim work during the year 1922-1923 was 84. Of this number, 46 satisfactorily completed the work assigned.

NATURE OF GRADUATE WORK

There has been much discussion as to the real difference between graduate and undergraduate work. It is generally agreed that the graduate student should rely primarily upon himself and that the function of the teacher should be mainly to act as an adviser, to point the way and to criticize the results. There are many who believe that one of the most serious defects of our undergraduate training is that the student is encouraged to depend too much upon the instructor and too little upon his own individual efforts. As a result the student comes to magnify the importance of classroom work and judges of his progress largely by the number of courses he is allowed to carry. In the Graduate School this same tendency obtains. The graduate student, like the undergraduate, is a worshiper of courses. The more courses he is allowed to carry the greater his gain. One of the most difficult tasks that the Dean of the Graduate School has had to face is that of trying to correct this erroneous view. There is much to be said of the system now in vogue in a few universities of practically abolishing all course requirements for the Doctor's degree. The candidate is free to attend whatever lectures he may desire, to come and go as he pleases, and is judged entirely by the character of his dissertation and by the general final examinations given him bearing upon the field of his major and minor subjects. Our Graduate Council has seriously considered this subject and it is probable that a change in our present regulations will be recommended to the University Faculty in the near future.

RETROSPECT OF THE YEAR

While the year has not been marked by any outstanding advances, nevertheless in many respects it has been the most satisfactory one in the history of the Graduate School. A number of eminent scholars have been added to the instructional force and some outstanding additions have been made to our equipment. Thus our facilities for the study of matter by means of the X-ray is not equaled by more than one or two universities in the country. The endowment of the Edward Orton Library in Geology and the Charles Cutler Sharp Library in Chemistry in time will place these libraries, already fairly complete, among the very best, while the appropriation of \$100,000 for the purchase of books during the next biennium will materially aid in filling

in weak spots in other departmental libraries. Above all, the spirit of productive scholarship has developed in a most satisfactory way while the output of worth-while publications has not only been greater in volume but of a higher standard than during any previous year in the history of the University. There has been the most cordial co-operation on every side. Members of the Graduate Council have taken great interest in all that pertains to the advancement of the Graduate School and I wish to express to them and to you, Mr. President, and to the many other members of the instructional force who have always at interest the advancement of the scholarly work of the University, my sincere appreciation for their help and kindly co-operation.

Respectfully submitted,

WM. MCPHERSON, *Dean of the Graduate School.*

REPORT OF THE DEAN OF WOMEN FOR 1921-1922 AND 1922-1923

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—My report at this time covers the work of 1921-1922 and 1922-1923 because of the fact that I was away from the University from February 1st to June 10th of 1922, and owing to special circumstances did not receive a report from the Acting Dean of Women for that period until late in September of 1922.

This present report deals with the housing conditions, the social conditions, and the attempts made by this office to meet the many needs of the now 2800 women registered in Ohio State University.

Housing conditions are improving each year as we are able to obtain houses distinctly maintained for the use of women students. The private family which rented one or two "spare rooms" to students in order to help meet household expenses and in consequence regarded their roomers either as guests or as necessary evils is practically done away with. In houses set apart for students more stable conditions can be maintained; householders can be held responsible for reporting conditions of misconduct, violation of University social rules, illness, or absence from University work.

In order to be recognized as a University approved householder, the women in charge of each of these houses must accept certain definite responsibilities towards this office, and her house must meet certain physical requirements. It has been of interest to see with what increasing eagerness a position is sought on this "list of approved rooming houses for girls."

The reports of Miss Mary Louise Brown for 1921-1922 and of Miss Katharine Rogers Adams for 1922-1923 here included give details showing the care with which this work is superintended.

These young women as Assistant Deans have had as their chief occupation the personal supervision of rooming houses, sorority houses, and church homes. It has been their duty to inspect new houses, to become acquainted with the young women living in these houses, and to investigate and report to me all friction or unsatisfactory conditions arising either from non-conformity with regulations or from discontent of either girls or householders. The Assistant Dean is the field agent for this office, most of her time being spent outside the office.

The housing situation is as yet less than satisfactory because of the high prices for rooms resulting from exorbitant rents in this portion of the city. The chief need at present is for light-housekeeping rooms for the girl who lives near enough her home to have her food sent from the farm. Students thus supplied can reduce the cost of their living expenses very greatly.

The financial condition among our women and their college expenses has offered material for interesting study this year. A few statistics are enlightening. Two sisters doing light housekeeping and receiving all their food, except milk, from the family farm found their joint expenses for living to be from \$37 to \$50 a quarter. From approximately 30 girls who are working for their room and board in private families it was found that the total additional money required, including clothing, varied from slightly under \$100 (in three cases) to \$250, with a rare \$300 per year (three quarters). The great danger in these cases is from nervous breakdown, especially when the

additional money must be earned in the summer. These accounts may be compared with those offered by girls whose estimated expenses are from \$1700 to \$2000, due largely to clothes, expensive room rent, and social activities.

In order to have means for meeting cases of financial strain and of temporary need, loan funds have been developed for the use of women students. The Women's Student Government assesses each entering student a fee of 25 cents from which 15 cents goes into a Student-loan Fund available for junior and senior girls with satisfactory University records and granted without interest or guarantor. These loans have been repaid on time in practically every instance. The fund is now close to \$1000.

The American Association of University Women has now a fund of about \$300. A group of Ohio State University Alumnae in Columbus has for several years furnished a loan fund of nearly \$500, and the Columbus College Woman's Club has a somewhat larger sum, all available on approximately the same terms. These are not always needed in full, but are of very great service.

Although the Dean of Women is not regarded as an Academic Dean who plans and regulates courses and registration of students, yet the class records of women students enter into her work whenever these records are unsatisfactory. Because there is as yet not adequate provision for the personal interview which should be held with every freshman and senior girl, only those students with markedly unsatisfactory records are called into her office. An attempt is then made to discover the underlying cause for the failures.

It seems possible to summarize the results of these interviews by classifying them into three groups. First, of girls who had always found high-school work too easy to demand intellectual effort, hence played in college also. Occasionally these girls reach their sophomore year without having learned the necessity for study. Such girls can be saved if their interest can be aroused. Another large group is made up of young women without college background at home and hence without training in study habits. These girls are often most capable in a practical way, and are further handicapped if they live in town by being expected to carry on all the church work, household duties, or social activities which they carried during high school. Several of our nervous breakdowns have come within this class. In some of these cases the families have been brought to see the necessity of setting apart more time for study at a period of the day when the student was not fagged physically and of exacting real study. Several of our girls in these last two years, whose cases I know, have had entire charge of the housekeeping for the family, in two cases also looking after younger children in homes where the mother was not living. When these young women attempted to carry a full schedule, either health or grades suffered, often both. In the third class may be grouped the miscellaneous cases of failures, including girls registered for courses for which they have no natural aptitude and in consequence no very keen interest. I have grouped here also girls whose work has been poor because of absence on account of illness, or whose work has been temporarily unsatisfactory due to low physical vitality. These last are more numerous than would at first be supposed, and should be dealt with by an organized effort on the part of my office, the Department of Physical Education, and the Department of Home Economics. Such plan has been discussed but not as yet put into effect. Deans of several of the colleges have recognized the

value of these investigations and grant no schedules of either reduced or extra hours without my personal signature. This co-operation is encouraging.

By gradual pressure rather than by actual rule of the University there has grown up the accepted understanding that no girl with a failure for the current quarter may hold an office, represent the University in any public program or be put on committees demanding responsibilities.

Theoretically the chief duties of this office are social supervision and the enforcement of discipline by punishment or reward. Social direction and supervision have been practically at a standstill until the erection of Pomerene Hall, which has given to this office and to the student organizations rooms in which women students can meet for social and organization purposes. The value of this first half of Pomerene Hall to the women students of the University has been strikingly shown this year. Young women have at various times tried to express to me how this Hall gave to them the feeling of a place on the campus which was theirs and how it made them feel that after all the University cared or it would not have created for them a place for rest, with this atmosphere of quiet and of refinement. Pomerene Hall is a natural center for friendship and for possible attractive and inexpensive entertaining by the non-exclusive University group. It has unfortunately been necessary to bar, as somewhat less in need, all sororities and fraternities or purely men's organizations until we shall have greater facilities. The completed building will be of far more than double the value of this half in that it will enable us to touch at least upon our great co-educational social questions. All social affairs conducted within the building can be given a desirable tone and the very undesirable conditions present at hotel and club house, not to mention suburban hall dances, can be entirely done away with.

The Dean of Women has at present only slight control over dance conditions. It is to be hoped that the existence of the newly created Student Affairs' Committee will make it possible to show students through their own representatives the necessity of enforcement of rules of chaperonage and limitations of hours and expenses, as well as to bring about the actual or nominal restriction of social functions to week-ends. Student control is more and more sought as the effective means of governing student life and activities. It must be guided and upheld by faculty advisers and by faculty rulings but the student only can know what students are doing outside of class hours. Therefore, when their own leaders have been brought to the acceptance of given standards, they can maintain them among their fellows.

In like manner a constantly increasing number of the minor discipline cases among girls have for the past two years been handled by the Woman's Student Government Council, aided by such consultation as seemed necessary with my office.

This past year all cases of infringement of house rules or social regulations have been dealt with by this Council. It has handled them in a dignified, careful manner, and in a few instances only have girls been referred to me for further reprimand.

Serious cases of discipline involving delicate questions are handled by me personally, although I usually discuss the matter with the Student Government President before giving it a final hearing, and always before giving it any publicity on the campus. I have been not a little distressed to note how large a per cent of these last cases arise among girls who have been

accepted as transfers with questionable records from other colleges. I recognize the fact that a state university owes to its citizens a second chance, but I am inclined to regret that we should feel it necessary to add to our already great numbers those who have not been desirable citizens in their own commonwealths. Cases of serious discipline are few in comparison with our great numbers of women. This is partly because not all serious conditions come to the knowledge of the proper authorities but it is also because every effort is made to reach young women before they become subjects for disciplinary action. It is the policy of this office to spare every young woman the stigma of "expulsion," and when possible within reason she is permitted to "withdraw" rather than be marked as "suspended." Discipline cases however occupy a very small part of the attention of this office.

Each year in this office it becomes necessary to stress certain phases of a work which is far too extensive to be adequately carried on by the present force. This year special emphasis has been put on organizations in their relation to the Student Government as a whole, in order to meet an unfortunate tendency on the campus towards independent whirlpools of interest. This has not as yet by any means been counteracted but a start has been made in this direction. Fortunately the Council group of 20 girls has had as its leader this year a remarkably able and clear-minded young woman who has made it a point to work in cordial co-operation with other campus organizations. The Young Woman's Christian Association, the Women's Athletic Association, and smaller groups of Woman's Ohio, Chimes, etc., have all been called upon for joint work.

It was of very great advantage to our own younger leaders that Ohio State University was hostess in May to a national Student Government Conference to which 91 representatives, made up of outgoing Presidents and Presidents-elect, were invited and at which 40 colleges and 19 states of the Union were represented. The young women present were of strikingly fine types, each attempting to gain from the discussion suggestions for more adequate means of meeting the recognized need of higher standards on the campus of today. All felt very keenly the need of a better understanding between faculty and students, of the part each could take in helping the other in constructive measures to be taken for the regulation of dishonesty in classes, excessive social activities, unreasonable dramatic-club and glee-club programs and questionable student politics. Such a convention as this, together with the Men's Student Government Convention, held in the East this spring must show that students themselves are ready to recognize the necessity in the great educational groups of today for a type of organized government and supervision which the small, picked college groups of a few years ago did not need and would probably not have accepted. The university communities which mount into several thousand young people must see themselves as training centers for model citizens, and must recognize their campus activities and campus organizations as a part of this training, watched over by the constituted university authorities with as much interest and care as is their academic training.

I feel that I cannot say an "in conclusion" to an attempted account of the varied interests of my past two years as Dean of Women without a word of appreciation to you, Mr. President, and to the Board of Trustees for graciousness in having made possible for me the trip into the Orient last

spring. As you may remember, I went as the representative of the women engaged in non-religious work among university women to the World's Student Christian Federation Conference in Peking. I was one of eight women in a party of 20 from the United States. Five of these women were college undergraduates. After the Conference we were together with the delegations from various of the other 32 nations represented, divided into groups which visited Chinese schools and colleges, speaking on Christian international friendship and related subjects. Such a trip could not fail to give me a new conception of the privilege of education as we would like to offer it to the young people of America. Personal acquaintance with the eager and struggling students of the many countries represented at this Conference of necessity aroused an even greater desire to bring out and develop the latent possibilities in our American young women, creating in them if possible more adequate conception of their opportunities in order that real interest may be made to replace what seems by comparison with the foreign student a complacent or unconscious indifference.

In my dreams for next year I should like to include preparations for occupancy of the completed Pomerene Hall because much would then be possible in co-operation with the Physical Education Department for the welfare of women at Ohio State. If this may not by any means become a reality, then the aim of this office will be to continue for this coming year to work towards better campus social conditions, more sincere scholarship standards, and a broader horizon for every individual woman student.

Respectfully submitted,

ELISABETH CONRAD.

REPORT OF THE ASSISTANT DEAN OF WOMEN

HOUSING SITUATION FOR 1922-1923

The housing situation continues to improve. The current year has witnessed a concentration of houses into the University district proper. Larger houses have been encouraged, retained, and added to the housing list; those that hold less than four students are discouraged; they are also usually found to be too scattered.

Every effort has been made to continue to raise the standard of sanitation and repair in the houses. Houses owned by the householder have been found to be in good repair generally. In cases where they are rented, there is great difficulty in getting co-operation from landlords, but the standard of rental demands a certain definite return in repairs. Landlords are finally realizing that a house in good repair has constantly brought in satisfactory income, and therefore better co-operation from lessees, through student sources.

The chief difficulties in the housing situation are not unusual. They are due chiefly to small matters of incompatibility between girls and householder, or to necessary readjustments among the girls themselves. In most cases compromise has been the rule and has brought the best results. With regard to

the householders themselves, it has seemed advisable to stress the standard of homekeeping that we all desire, as the best possible way of achieving uniformity and fairness in prices in order that there may be an equal chance for all. Progress in standardization of price and payment, and a more decided co-operation with this office has been the result. Householders have this year had in mind the more careful observance of Student-government Rules, especially in such cases as affect the health of students. They have been fairly prompt in reporting cases of illness. Furthermore, during the current year a daily report of all girls treated has been received by the Dean of Women from the University Health-service offices. Such report has been of decided value, and the spirit of such service has been greatly appreciated.

Changes in rooms, i. e., a student moving from one house to another, numbered for the year 1922-1923, 71 in the First Quarter, 41 in the Second Quarter, 30 in the Third Quarter. Of these, 16 were made to sorority houses, six to Oxley, and four to St. Hilda's Hall to fill vacancies. Eight changes were made to the homes of relatives or to those of parents who came to reside in Co'lumbus. The remaining 37 changes were made because more amiable arrangements in various households were necessary.

To the 1922 list, numbering 65 houses, were added 18 approved houses in the autumn. The approximate number of double rooms was 236, single rooms 38, triple rooms six, exclusive of Oxley Hall and the Sorority Houses. Twenty-three houses have been withdrawn from this list for a number of reasons: householders have left the city, some have made the change from women to men students, in some cases there has been unsatisfactory observance of Student-government Regulations and unsatisfactory house supervision, in one instance the illness of the householder brought about the loss of an excellent house and householder, and in another a fine, large house has been leased to a sorority. For the ensuing year the number of houses has been augmented to 56, accommodating 550 undergraduate students. There is also a supplementary list that will take care of a possible overflow.

Upon observation and investigation it has been found practical to make a list of houses suited especially to graduate women students. There has been a general demand for such arrangement. This list at present consists of 12 houses available for the year 1923. The desire has been, on the part of graduate women, to live in smaller groups. Copies of this list are on file in the offices of the President of the University, the Dean of the Graduate School, the Dean of Women.

THE HOUSING OF YOUNG WOMEN, SELF-SUPPORTING

Positions for room and board available 1922-1923 numbered 72. The number of young women supplied was 30. The reason for the demand exceeding the supply is mainly that about half of the positions are located too far from the University. This fact alone makes it exceedingly difficult for girls to meet their classes, or to adjust their working hours to their academic schedules in a satisfactory manner. There is also the element of time and transportation to be considered.

Work available for the undergraduate woman is varied. General housework, care of children are in greatest demand, although there has been an occasional call for companions and waitresses. Clerical work, typewriting,

and stenography, clerking in shops, and sewing are usually considered as part-time work and are under the direct supervision of the Secretary of the Young Women's Christian Association of the University.

KATHARINE ROGERS ADAMS.

REPORT OF THE ACTING DEAN OF WOMEN FEBRUARY 10, 1922, TO JUNE 10, 1922

The conditions in the various phases of the work were as follows:

WOMEN SELF-GOVERNMENT

There was evidence of an increasing consciousness of responsibility by the officers. There is, however, a need for closer co-operation between the Women's Council and the House Presidents. It was recommended that the House Presidents be appointed by the Council and be inducted into office as are other officers of the Self-government Association. This should increase the importance of the office of House President and thereby impress the officer with her responsibility.

THE YOUNG WOMEN'S CHRISTIAN ASSOCIATION

The Y. W. C. A. proved itself to be very efficient in reaching a great many students and enabling them to engage in many different types of work of a non-society kind. It searched out the diffident and lonely freshmen. It sponsored many good causes on the campus, and in every case worked in close co-operation with the Dean of Women and with the Women's Self-government Association. It is undoubtedly a power for the best on the campus.

SORORITY HOUSES

All sororities planning on houses were advised that their budgets should allow for a chaperon who would have none of the actual cooking or housework to do, but would have general supervision of the house. In addition a cook and probably a maid would be needed to run the house properly. If sorority houses are to fulfill their function they must be conducted on these lines.

MOTHERS' ASSOCIATION

The Mothers of the Columbus students offered to be of service to the Dean of Women and following that offer two meetings of the Mothers were held. The Acting Dean of Women suggested that the greatest assistance would come through an attempt by the Mothers to understand the Dean of Women's work and to co-operate with her by encouraging real application to academic work and discouraging exaggerated forms of recreation.

SOCIAL

The question of limiting the amount and directing the kind of social life is usually intimately connected with success or failure in academic work.

Those students deficient in their work almost invariably were involved in a heavy extra curricula schedule. Frequently, exaggerated social activity is in the direction of many and very late dances.

On the other hand there were some students who became discouraged and therefore inefficient, because they were entirely deprived of any social recreation. In order that this situation may be changed, it seems essential that there should be an official who would work with the Dean of Women in influencing the men students towards sanity in social matters. For one student this would mean curtailment for another enlargement.

Chaperonage at fraternity houses could be well managed if all fraternities were required to have House Mothers, in addition to cooks and domestics. The House Mother would receive the women students who come to the house. They would also be in a position to see that house dances closed on time and that students in the house were properly cared for. They would greatly relieve the Dean of Women of any anxiety as to the proper conduct of the houses, and would be able to give many students help in matters relating to usages of refinement and good taste.

HONOR SOCIETIES

The Honor Societies always tried to maintain the ideals on which they were founded and in most cases proved themselves worthy. There was some danger, as in most self-perpetuating bodies, that the choice of members would not always be as free from personal feelings towards the candidates as is to be desired. The high standard of choosing members may be maintained if the organizations are made to realize this danger.

LOANS

The Loan Funds were much in demand. The Women's Self-government Fund is being steadily enlarged, and there were always needy students who benefited by it.

INDIVIDUAL WORK

The cases of advice and counsel, of criticism and discipline, are not of a character to be included in a report. It must be said that in all cases the policy followed was of a constructive character. The attempt was made to point the way which would lead to development in intellect and character.

MARY LOUISE BROWN.

REPORT OF THE ASSISTANT DEAN OF WOMEN AUGUST 1, 1921, TO JULY 1, 1922

The work of the Assistant Dean of Women involved the inspection, approval, and supervision of student houses, and the placement of students in homes to work for their room and board.

HOUSING

The housing conditions for women students at the Ohio State University during this year were marked by a number of changes which in most cases were improvements. Exclusive of Oxley Hall and South Hall, the following changes took place:

<i>Added</i>	Number of Houses	Number of Places
After 1921 list was complete.....	23	129
<i>Dropped</i>		
During 1921-1922	24	89
June, 1922	21	136
<i>Added</i>		
For 1922-1923	8	97
In prospect for 1922-1923.....	2	46

SORORITY HOUSES

<i>Used</i>	Number of Houses	Number of Places
1921-1922	9	77
<i>Dropped</i>		
1921-1922	3	15
<i>Added</i>		
For 1922-1923	7	78

TOTAL ADDITIONS APPROVED HOUSES

	Number of Houses	Number of Places
May, 1921-June, 1922	39	272

TOTAL SUBTRACTIONS APPROVED HOUSES

	Number of Houses	Number of Places
May, 1921-June, 1922	55	225
Decrease	16	...
Increase .....	..	47

These figures indicate that the tendency has been to reduce the number of houses of small capacity. The accommodations, exclusive of sororities and dormitories, were increased by 47—the number of houses decreased by 16.

The changes in sororities resulted in a net increase in accommodations of 63 and in the number of houses of five.

The number of sorority houses in prospect June, 1922, was 13 with accommodations for 140 students.

During the year there were at least two visits paid to every householder on the approved list and whenever necessary more visits were made. There was usually splendid co-operation from the householders. They were conscientious in maintaining Student-government Rules and in reporting disobedience to those regulations. They were also ready wherever possible to improve furnishings and to reduce overcrowding. It is now understood that single beds will be the rule where new beds are bought and that not more than two students will be put in one room.

I should like to recommend that when new houses are being considered for approval, the householder be asked to submit references. These references need not be used unless an additional check on desirability seems wise.

The work of supervising houses for women would also be greatly facilitated if the houses where the men students live were inspected and supervised in a similar manner. Difficulties sometimes arise because householders who usually accommodate men take in women at dull times in the year. These houses should be checked up and could be if there were supervision.

SELF-HELP STUDENTS

Students who were working for their room and board were in constant touch with the Assistant Dean of Women. They were asked to keep weekly record cards of the hours of work. These records revealed considerable difference in the amount of work done. The daily average ranged from one and one-half to five hours a day. In most cases where students worked more than 28 hours per week they were paid for overtime, but in spite of this fact, the system of student work can be much improved both in regard to what is required of the student and in regard to the quality of work done by her. A record of work will facilitate this improvement. There was an average of 25 girls in this work during the year.

EXPANSION

A great need was felt to reach more adequately all the women students and particularly those who were living with friends or with relatives not their parents and also, but less urgently, Columbus girls living at home. The plan was made to visit the homes and meet the families. This was done in a sufficient number of cases to indicate real value from such acquaintances to the Dean of Women's work, and also its value in the understanding by the families of the Dean of Women's function in a great University.

MARY LOUISE BROWN.

REPORT OF STUDENT HEALTH SERVICE DEPARTMENT

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I have the honor to submit for your consideration, the annual report of the work accomplished in the Student Health Service Department for the academic year ending June 30, 1923.

THE GENERAL HEALTH IN THE UNIVERSITY

During the first three months of the year the general health of the students was excellent. Then came the Influenza epidemic in January and February, which taxed the Department to its utmost. During the balance of the year, the usual good health prevailed.

THE INFLUENZA EPIDEMIC

Influenza cannot at the present time be classified as a strictly preventable disease and regardless of the splendid health enjoyed during the fall months, an epidemic of this disease began the first week in January, upon the return of students from their Christmas holidays. It reached its height about the 23rd of the month, then gradually declined until the latter part of February. Although most of the cases were mild, there seems to be a decided tendency to complicate with sinus and ear trouble, which left quite a few students suffering from "after effects" and helped to cause an unusually large loss of time from the University work. We rather encouraged this absence from classes as we found that rest, isolation, and proper nourishment, taken early, played a large part in hastening convalescence and in abating the epidemic; 510 cases of this disease occurred during the year. With your prompt assistance and consent, the services of Dr. H. H. Shively, former Director of State Department of Health, was secured and he ably assisted us during the epidemic.

LESS PREVENTABLE SICKNESS

All of the months of the year, except January and February, showed a decided gain in health over the same months of last year. During this time over 3000 less school hours were lost through preventable sickness.

GROWTH OF THE DEPARTMENT

The following statistics show the growth of the Department during the last six months:

	'17-'18	'18-'19	'19-'20	'20-'21	'21-'22	'22-'23
Number of visits.....	2397	3167	4434	10923	13110	15256
Different students.....	1103	1503	1913	3595	4234	5265

This steady and consistent growth is, in part, coincident with the increased registration in the University, but we believe it can be attributed, to a greater extent, to the aroused interest and greater appreciation on the part of the members of the University, in "Health Care" and preventive measures. The decided increase in the amount of work accomplished during the year 1920-1921 over previous years was due to the enlargement of our staff, quarters, and equipment at that time.

POPULAR AND ECONOMICAL

This year with a record of 15,258 visits by 5265 different individuals, 4409 men and 856 women, we have had approximately two-thirds of the entire membership of the University using the privileges of the Department and the entire cost of all this work, including salaries, was less than \$8000.00.

ONE OF THE GREATEST NEEDS

The above figures show the work has increased approximately 50 per cent since 1920-1921, but we are still conducting it with the same sized staff (with the exception of a part-time assistant this year for the two months during the epidemic). Our needs along this line are very apparent.

THE BIGGEST THING ACCOMPLISHED

In keeping with our "Health First" propaganda, 1162 visits were made to this Department during the year, by students, members of the faculty, and employees for advice only. This number would, no doubt, have been larger if many who called for advice had not turned away to give place to those suffering from more serious ailments, during the months of January and February, when the staff was extremely busy. This confidence and appreciation of our work, as shown in the rapidly growing interest in the prevention of sickness, we consider the biggest thing accomplished this year.

CO-OPERATION

We report with considerable pride the splendid co-operation existing between this Department and the various colleges and department of the University. Especially are we indebted to the Colleges of Dentistry, Pharmacy, and Applied Optics, also the Departments of Physical Education and Military Science and the State Department of Health Laboratory, for their valuable assistance during the year. Our policy of co-operating with city and family physicians by phone and letter, in caring for the students who are ill, has been very helpful to all concerned.

THE DISPENSARY

One of our most important co-operating agencies is the College of Pharmacy Dispensary. It furnishes the student with convenient service and saves him from 20 to 40 per cent of the cost of prescriptions and medical supplies. At the same time, it provides the Pharmacy students with valuable experience and training in their work.

Six thousand one hundred and thirty-seven prescriptions were written during the year, but owing to the extra large enrollment and crowded condition in the College of Pharmacy, sufficient time and attention could not be given by them to this work, and as a result many of these prescriptions had to be filled elsewhere. However, this phase of the work is such a great saving to students, both in time and money, and is so essential to our Department, that we hope the services of an additional part-time graduate student may be secured, which will provide ample help and time for the work.

COMMUNICABLE DISEASES

RESPIRATORY

Communicable diseases were the chief causes of illness, and as usual, those of the throat and respiratory tract were the most numerous. Coryza, "cold in the head," furnished by far the greatest number of patients, except during the Influenza epidemic in January and February. Pharyngitis, Bronchitis, and Tonsillitis were the other prevailing diseases.

INFLUENZA

Of 510 cases of Influenza, 368 occurred during the month of January and 123 in February. The remainder were sporadic cases occurring throughout

the balance of the year. It is interesting to note, that from the City Board of Health reports, this disease was 50 per cent less per capita in the University than throughout the city, while none of our cases were complicated with pneumonia, also no deaths occurred among the students treated in this Department.

SCARLET FEVER

For the first time in the history of this Service, Scarlet Fever made its appearance in the University, to any noticeable extent. Fifteen cases reported here between the months of February and May. All of these were mild. Three were so mild that it was difficult to diagnose them. Safe transportation to their homes was provided, in most of these cases, and through the co-operation of the City and State Boards of Health, they were promptly referred to their family physicians. Owing to the unusual stress under which the staff was operating at this time, it was impossible to find the source of the disease.

TUBERCULOSIS

Two cases of active tuberculosis of the lungs and one of the hip were found during this year among the students, all of whom withdrew from the University and are receiving proper treatment.

VENEREAL

We are pleased to report that only five cases of acute gonorrheal infection reported here for advice or treatment during the year. This is a reduction of 70 per cent over last year and 58 per cent less than the preceding year. Also, for the first time, syphilis was entirely absent.

MISCELLANEOUS

There have been three cases of diphtheria, three of measles, two of mild smallpox, and one of whooping cough, all of which recovered without complication. It is remarkable that we have been entirely free from mumps, typhoid fever, chicken pox, and malaria this year.

DIGESTIVE DISORDERS

Our campaign against "Digestive Disorders" which we started last autumn, had reduced the number of these disorders 21 per cent until the Influenza epidemic overtook us in January, when there was a decided increase in these ailments, which continued throughout the month of February. Since then there has again been quite a reduction of cases over last year. However, we still have entirely too much of this trouble and until some provision is made for the inspection of eating places and the establishment of some co-operative interests between them and the student we can hardly expect any great improvement.

MINOR SURGERY

There is an ever increasing number of sprains, local infections, bruises, dislocations, fractures, and wounds of all kinds to be taken care of. A total of 1450 surgical dressings were made during the year. This is an increase of 33 1-3 per cent over last year.

CLASSIFIED LIST OF DIFFERENT PATIENTS GIVEN ADVICE OR TREATMENT

Freshmen.....	1862
Sophomores.....	1366
Juniors.....	909
Seniors.....	635
Faculty.....	70
Employees.....	61
Graduates.....	93
Specials.....	49
Total.....	5045
Visitors for advice and information.....	220
Total.....	5265

FIRST-AID CABINETS

First-aid Cabinets were again supplied to a number of laboratories and shops on Campus by this Department. These were used only under the direct supervision of one of the instructors and provided a valuable service to the student.

IMMUNIZATION

Members of the University who were or expected to be exposed to contagious diseases, were given every opportunity to be immunized. In collaboration with Major Beery of the Military Science, 118 students were inoculated against typhoid fever and 114 vaccinated for smallpox for the R. O. T. C. Training Camp. Also co-operating with the Department of Physical Education, 242 students were immunized against smallpox.

FLUELESS GAS STOVES

The flueless gas stoves were responsible for many deaths throughout the state during the winter and, while we had only seven cases of carbon monoxide poisoning (none of them fatal), still we believe these stoves are a menace and help to cause much sickness among our students. A "Health Card" on "Fresh Air and Ventilation" has been prepared and a campaign of education along this line will be started in the autumn.

HEALTH FEE

The rapid and consistent growth which this Department has experienced during the past few years brings us face to face with a rather serious question, one of finances. As no charges are made for services to students, there is no income. The growth has measurably increased the cost of maintenance and we must soon decide whether we are going to consider our work as a more or less Health-teaching proposition and continue to provide for it from the general funds of the University, or consider our work a medical one, and require a small fee to help pay for it.

In a general survey of Student-health Service in colleges and universities throughout the country, recently made, it was found, in approximately 55 per cent of the larger ones a compulsory medical fee was charged the student which was paid at the time of registration. In the remainder, the service was furnished more or less free to students and paid out of the general funds. In nearly all the universities where a compulsory fee for medical treatment was charged, the annual cost of the Health Service was from five to 10 times greater than ours, in proportion to their enrollment. The remarkably

low cost at which our service has been conducted from year to year, is due entirely to our policy and system. While nearly all other universities are maintaining hospitals for students, doing bedside work and devoting the greater part of their time and attention to treatment of diseases and accidents, we are devoting our major efforts to preventing these things. Therefore, as long as we continue to conduct our work as it is now, there can be no necessity for building up a large expensive staff to handle it.

Nevertheless there seems to be a growing sentiment for more prompt and increased service and if it is found that the cost is growing too heavy, we believe, from the many words of appreciation heard almost daily regarding the Service, a nominal fee of 50 cents or \$1 per quarter would meet with general approval on the part of the student body, and at the same time bring little opposition from the medical fraternity. We believe the annual income which might be secured from the first-named fee would provide sufficient to increase our present working capacity fully one-third, while the larger fee, if adopted, and administered according to our present policy and system, would provide, annually, ample funds for every possible need for years to come.

NEEDS AND PROBLEMS

A few of our needs and problems enumerated in the last two reports, still exist, some to a greater, some to a lesser extent. That of additional help to handle the work more efficiently has been the outstanding one again this year; however, a full-time assistant for next year has been assured. The urgent need for a Contagious Hospital or Isolation Quarters for students suffering from contagious diseases was again forcibly brought to our attention during the Influenza epidemic and later when an unusual number (15) scarlet fever cases occurred.

An itemized list of ailments and conditions treated are presented on the following pages.

CONDITIONS AND AILMENTS TREATED DURING 1922-1923

<i>General Diseases</i>		<i>Other Diseases of the Nervous System</i>	
Influenza.....	510	Neurotic edema.....	1
Scarlet fever.....	15	Hysteria.....	2
Diphtheria.....	4	Neurasthenia.....	3
Measles.....	2	<i>Diseases of the Eye and Their Adnexa</i>	
Smallpox.....	2	Conjunctivitis.....	106
Whooping cough.....	1	Blepharitis.....	4
Tuberculosis.....	3	Chalazion.....	2
<i>Cancer and Other Tumors</i>		Hordeolum.....	22
Epithelioma.....	1	Retinitis.....	1
Sebaceous cyst.....	5	Eye strain.....	111
Dermoid cyst.....	1	<i>Diseases of the Ear</i>	
<i>Rheumatism</i>		Cerumen, accumulation.....	146
Acute articular.....	2	Haematoma of ear.....	3
Lumbago.....	23	Otitis media acute.....	35
Torticollis.....	14	<i>Circulatory System, Heart</i>	
Pleurodynia.....	9	Aortic insufficiency.....	2
<i>Anaemia</i>		Mitral insufficiency.....	3
Anaemia, simple.....	8	Mitral stenosis.....	1
<i>Neuralgia and Neuritis</i>		Myocarditis.....	1
Neuralgia, facial.....	32	<i>Veins</i>	
Neuralgia, intercostal.....	11	Hemorrhoids.....	14
Neuritis.....	3	Varicocele.....	5

<i>Hemorrhage</i>		Dysmenorrhea	95
Epistaxis	29	Metorrhagia	1
<i>Lymphatic System</i>		Leucorrhœa	17
Adenitis, axillary	3	<i>Diseases of the Skin and Cellular Tissue</i>	
Adenitis, cervical	2	Furunculosis	179
Adenitis, inguinal	9	Carbuncle	18
<i>Respiratory System</i>		Acute abscesses, alveolar	28
Rhinitis, acute coryza	1073	Acute abscesses, others	15
Rhinitis, chronic	38	Cellulitis	11
Laryngitis	123	<i>Infections, Other Local</i>	
Aphonia	4	Ankle	2
Bronchitis	522	Arm	17
Empyema	1	Ear	6
Tracheitis	254	Face	19
Pleurisy	10	Finger	28
Asthma	3	Foot	36
Hay fever	2	Hand	13
Sinusitis	44	Heel	6
<i>Thyroid</i>		Knee	138
Thyroids, adolescent	24	Leg	10
Thyroid, toxic	1	Neck	7
<i>Digestive System, Mouth, Adnexa</i>		Nose	1
Gingivitis	3	Shoulder	1
Stomatitis	9	Thumb	2
Ulcer of mouth	22	Toe	8
<i>Pharynx</i>		<i>Other Diseases of the Skin</i>	
Tonsillitis, acute	224	Acne	14
Tonsillitis, chronic	28	Alopecia areata	5
Tonsillar abscess	2	Clavus	23
Pharyngitis	566	Callosity	5
Nasopharyngitis	785	Dermatitis, simple	11
Vincent's angina	6	Dermatitis, venenata	26
<i>Stomach</i>		Dermatitis, medicamentosa	18
Acute gastritis, mild	230	Eczema	42
Acute gastritis, severe	34	Erythema, simplex	10
Chronic gastritis	16	Erythema, intertrigo	13
Unclassified	78	Erythema, multiform	6
<i>Intestinal</i>		Erythema, nodosum	2
Enteritis, catarrhal	57	Herpes simplex	40
Indigestion	34	Herpes zoster	6
Food poisoning	41	Hyperhydrosis	12
Unclassified	30	Ichthyosis	1
Constipation, symptomatic	190	Pediculosis, pubis	3
Constipation, chronic	1	Impetigo contagiosa	61
Appendicitis, chronic	1	Pruritis, ani	1
<i>Appendicitis</i>		Psoriasis	4
Appendicitis, acute	7	Scabies	14
Appendicitis, chronic	1	Seborrhœa	5
<i>Liver</i>		Urticaria	13
Jaundice	1	Verruca	40
Hyperemia, mild	35	<i>Nails</i>	
<i>Genito Urinary</i>		Ingrowing toe nails	12
Urethritis, specific	5	Onychiauxis	2
Urethritis, simple	1	<i>Joints</i>	
Cystitis, acute	8	Arthritis	3
Orchitis	1	Synovitis	5
Hydrocele	2	<i>Muscles and Ligaments</i>	
Balanitis	1	Myalgia, from muscle strain	122
Seimnal emissions	3	Ganglion	2
<i>Uterus and Adnexa</i>		Tenosynovitis	10
Amenorrhœa	6		

<i>Sprains</i>			
Abdomen	2	Hypertension	3
Ankle	125	Hernia inguinal.....	9
Arm	18	Monoxide poisoning.....	7
Back	6	No disease.....	41
Chest	17	No diagnosis.....	58
Elbow	1	Tachycardia	3
Groin	6	Shock	14
Finger	18	Weak arches.....	24
Foot	18	Prophylaxis, smallpox.....	356
Hand	4	Prophylaxis, typhoid.....	125
Hip	4	Urinalysis	72
Knee	35	Sputum analysis.....	19
Neck	4	Throat culture and miscellaneous smears..	32
Leg	15	Wasserman	6
Side	1	<i>Affections Produced by External Causes</i>	
Shoulder	19	Bites and stings.....	7
Thumb	23	Burns	96
Toe	4	Wounds, abraded	193
Wrist	25	Wounds, contused.....	161
		Wounds, incised	127
		Wounds, lacerated.....	20
<i>Foreign Bodies Removed</i>		<i>Fractures</i>	
Arm	4	Hand	2
Ear	1	Nose	5
Eye	66	Ribs	4
Finger	8	Shoulder	1
Foot	3	Sternum	1
Under nail	6	Wrist	1
Side	1		
Throat	1	<i>Dislocations</i>	
Tongue	1	Clavicle	1
		Elbow	4
		Finger	1
		Knee	2
		Ribs	1
		Shoulder	4
		Thumb	2
		Toe	1
		Wrist	3
<i>Unclassified or Ill-defined</i>			
Concussion of brain.....	1		
Dental caries.....	38		
Headache	14		
Hiccoughs	7		
Insomnia	27		
Impacted molar.....	10		

Respectfully submitted,

H. SHINDLE WINGERT, M.D.,
Director Student-health Service.

ANNUAL MEDICAL REPORT OF WOMEN OF OHIO STATE UNIVERSITY

It is always a difficult matter to make a statistical report convey all the knowledge represented by numbers and percentages.

Some explanations are necessary as to methods employed, existing conditions, and basis for making final deductions and conclusions.

This report is compiled from the required medical and physical examinations for women entering Ohio State University for the first time. It also includes sophomores and all women taking physical education.

The manner of conducting these examinations may give a clearer idea of the value of them.

Medical examinations as required are comparatively new, and thus we feel many improvements can be made, both in manner and mode given, and the value of the same increased.

These examinations are scheduled for the first few days of each quarter. When the student registers she is given a specified day and hour for her examination. A doctor's excuse for illness is the only valid excuse for not keeping the appointment. An average number of about 12 examinations per hour are scheduled. Many conditions must be taken into consideration in this work. To most women this is their first physical examination, and the newness of the situation, the nervous state, the reticence of some women, and their utter lack of the exact mode of procedure tends to hinder or speed these examinations.

A staff composed of four or five medical women and same number of physical instructors conduct the examinations. The procedure of the work is simplified as much as possible.

Starting the examination all women are required to have a bath immediately preceding it. A simple one-piece muslin robe and blanket are supplied each woman. The robes are used but one time, then laundered.

At this time specimens of urine are collected for a urinalysis. The specimens are examined by the Medical Department.

Each applicant is given three record cards one medical one physical, and a personal-history card. It is the aim of the Department to have the personal-history cards sent at time of registration and filled by student at home, her own physician going over the card and checking it.

The work, after each woman has received her cards takes a systematic procedure according to printed form of card. The medical staff takes charge of medical examinations and records data, then the physical instructors give the physical examination. Finally the medical card is gone over with the student by head medical examiner, and a personal interview given each woman. The medical grade is then recorded with any recommendations and remarks.

The physical cards are gone over and graded in the same manner by the head of the therapeutic gymnastic department.

The grades are represented alphabetically, and serve as a classification for women as to their status of health. Thus classification "A" represents the highest type of normal womanhood with no physical defects. Classifications "B," "C," "D," and "E" represent women with varying degrees of abnormalities and pathological conditions.

This year's report records four freshmen, five sophomores, and one junior in "A" classification. No senior, special, or graduate student made the above class.

This Department bases the work for women in physical education on the health classification.

Women in class "A" are unrestricted in work or sports. The other classifications have certain restrictions. We recognize there is a personal equation between a woman's health and her capabilities to do certain types of work. We feel better results would be obtained in all college work if the personal equation and condition of health of women were recognized.

It is not the desire of the Department to make our medical examinations arbitrary or final, but rather we like to suggest and co-operate with the student's physician. All cases where abnormal conditions are found we refer the students to their own or some other physician. The physician's report is always recognized and suggestions regarded. We have secured some very good co-operation in this manner. The student and her family are better satisfied, and it also keeps all agencies in touch with conditions concerning the women. Our work is to create a sensitive health conscience in our women. It is our province to instruct and train women in good hygiene, but not our work to correct pathological conditions. This rightfully belongs to the practitioner and not to the state. But a big piece of work can be done with co-operation of all persons concerned. Probably no one comes in as close contact with the women of the campus as this Department. Frequently we find conditions that a timid woman never reveals. It is a delicate piece of work to get such a student to recognize the necessity of caring for such conditions, and in referring women back to their physicians many times requires a great amount of urging.

We feel very much gratified to find most physicians are in sympathy with this work, and the few who are not have not had their eyes opened to the present-day needs.

There is no time like the present to correct mistakes. We do not believe in making light of what seem small ailments, but we believe everyone who seeks medical aid should have at least some consideration. This Department is always ready to discuss a case with a physician, and stand for any corrections, so long as they are given in a spirit of co-operation. Our only aim is to have and to keep our women in a normal state of health.

Medical inspection, to be of any value, must create a desire in the examined to correct and improve abnormalities.

It is difficult to get data concerning improvements of women in our institution. The required entrance examinations have only been in practice for two years. And no provision is made for examinations at the end of the year.

We have, however, obtained a few statistics concerning improvements made by sophomore women last year.

The percentage of improvements was 30.5 per cent. While it is not large we feel it is a start in a new piece of work.

These corrections and improvements will increase just as we are able to get students to see the value of good health.

Our observations and experience in this work have forced some very strong conclusions concerning this work among women students, and with

a vision and hope for the good of this work in the future we are making a number of recommendations and conclusions. They are as follows:

The basis for women students' work in any college should be governed by her status of health.

All women should be examined at the beginning of the year and at its close. This is the only way to get any correct and exact knowledge of a woman's state of health, and also of improvements made.

A system of follow-up work whereby the students may be aided in carrying out suggestions given for corrections. Women students need supervision concerning their physical hygiene.

We recommend early medical inspection in school children, yet we feel there is no period of early life so neglected as the adolescent girl. Many misfits in college life could be avoided if girls in high school were medically and physically examined. Many poor conditions are carried over from high school into our colleges, poor posture, poor hygiene, poor methods of study caused by poor mental hygiene.

Many cases of psychoses and neurosis occurring in our college women are indications of a highly organized nervous system, and most of these women have great potentialities, but for neglect of someone to recognize this condition and correct it this nervous temperamental state has been permitted to develop and grow at random. We must wake up and realize the relationship between a good, healthy body and a normal, stabilized nervous system. We need mental hygiene as much as physical hygiene in our colleges.

Ambitious college women must be taught their limitations, both physical and mentally.

The only way to maintain this high standard of physical and mental health is by frequent medical and mental examinations. It is surprising to find so many women in college ignorant of good laws of health.

The state feels it is its duty to train minds and hands, and to give to each woman the ability to compete for her own existence, and grants to each woman the opportunity to become a social and economic factor in her community. Therefore the state cannot neglect the means by which the above conditions may be obtained.

College women should represent the most vigorous stabilized type of womanhood if she would be of the most service and benefit to her community.

We say, "We must educate." We also say we must educate intelligently, each person according to his mental and physical capabilities.

ANNUAL MEDICAL REPORT OF WOMEN OF OHIO STATE UNIVERSITY
ANNUAL MEDICAL REPORT, WOMEN'S MEDICAL EXAMINER

OCTOBER, 1922, TO JUNE 8, 1923

NUMBER OF WOMEN EXAMINED	
Graduate	19
Special	36
Seniors	74
Juniors	155
Sophomores	468
Freshmen	648

Total number of women examined.....1400

"A" CLASSIFICATION

Number of Freshmen Women.....	4
Number of Sophomore Women.....	6
Number of Junior Women.....	1
Number of Senior Women.....	0

FRESHMEN REPORT

Number of Freshmen women examined.....	648
Average age	18 years
Average weight of women.....	119 pounds
Average height of women.....	63 inches
Classification of women: Number of women in Class "A"	4

<i>Heart</i>			<i>Thyroid</i>		
	No.	Pct.		No.	Pct.
Irregular hearts.....	19	2.9	Hyperplasia thyroid.....	325	50.1
Murmurs {	Mitral regurgitation 8	1.2	Thyroidectomies	2	.003
	Mitral stenosis..... 3	.046	<i>Urinalysis</i>		
	Aortic regurgitation 1	.001	Albumen present.....	38	5.8
	Haemic murmur.... 9		Sugar	2	.003
<i>Lungs</i>			<i>Nutrition</i>		
Normal	561	86.5	Women 10 pounds or more underweight	83	13.1
Fair (excursion)	69	10.6	<i>Vaccination</i>		
Poor (excursion or condition or rales)	18	2.7	Women not vaccinated.....	86	13.1
<i>Eyes</i>			Appendectomies	15	2.1
Glasses worn (constantly and for close work).....	210	32.1	Hernia	4	.006
Eyes needing attention (diseased and errors of refraction)....	54	8.3	Number of women having no children's diseases.....	5	.007
<i>Nose</i>			<i>Constipation</i>		
Adenoids removed.....	42	6.4	Chronic and occasional.....	75	11.5
Deviated septum.....	141	20	<i>Menstruation</i>		
<i>Teeth</i>			Regular menstruation.....	587	90.6
Excellent	56	8.0	Irregular menstruation.....	61	8.3
Good	346	53.9	Dysmenorrhea (slight to severe)	132	20.3
Fair	203	31.1	Women who are compelled to rest in bed.....	41	6.3
Poor (include pyorrhea).....	43	6.4	<i>Height Weight</i>		
Cases of orthodontia.....	7	.01	Heaviest weight Freshman girl..	217.5	
<i>Tonsils</i>			Lightest weight Freshman girl..	53.7	78.75
Number of tonsils removed.....	170	26.2			
Diseased, or tonsils requiring attention	18	2.7			

Number of Women Having Had the Following Diseases

Cerebro spinal fever.....	1	Scarlet fever.....	71
Diphtheria	62	Smallpox	8
Infantile paralysis.....	3	(Six of these were never vaccinated)	
Malaria	10	Tuberculosis	3
Measles	542	Typhoid fever.....	489
Pneumonia	56	Whooping cough.....	

ANNUAL MEDICAL REPORT OF SOPHOMORE WOMEN

OCTOBER, 1922, TO JUNE 8, 1923

NUMBER OF WOMEN EXAMINED—468

Average age of Sophomore women.....	19 years
Average weight of Sophomore women.....	119 pounds
Average height of Sophomore women.....	63 inches
Classification of women: Number of women in Class "A"	5

Heart

	No.	Pct.
Irregular	20	4.3
Murmurs {	Mitral regurgitation	8 1.7
	Mitral stenosis.....	3 .006
	Aortic regurgitation	1 .002
	Haemic murmurs...	6
<i>Lungs</i>		
Normal	388	82.9
Fair (excursion not good)....	63	13.4
Poor (condition of lungs and rales)	17	3.6
<i>Eyes</i>		
Glasses worn constantly and for close work	155	33.9
<i>Nose</i>		
Adenoids removed.....	59	10.4
Deviated septum.....	75	16.0
<i>Teeth</i>		
Excellent	19	4.60
Good	320	68.4
Fair	106	22.6
Poor	15	3.2
Cases of orthodontia.....	5	1.0

Tonsils

	No.	Pct.
Number of tonsillectomies.....	130	29.7
Diseased, or tonsils requiring attention	10	2
<i>Thyroid</i>		
Thyroid hyperplasia.....	256	52.5
Thyroidectomies	3	.006
<i>Urinalysis</i>		
Albumin	29	
Sugar	1	
<i>Vaccination</i>		
Women not vaccinated.....	45	9.6
Appendectomies	5	1.0
Hernia	2	.004
Constipation	43	9.3
Headache	53	11.3
<i>Menstruation</i>		
Regular	335	71.5
Irregular	53	11.3
Dysmenorrhea	54	11.4
Women compelled to be in bed some part of menstrual time	26	5.5

Following number of sophomore women who have had the following communicable diseases:

Cerebro spinal meningitis.....	3	Smallpox	9
Diphtheria	31	(Six have never been vaccinated)	
Infantile paralysis.....	1	Tuberculosis	0
Malaria	5	Whooping cough.....	271
Measles	33	Typhoid fever.....	17
Pneumonia	41	Seven sophomore girls who have never had any of the above diseases.	
Scarlet fever.....	45		

Improvements and corrections of recorded abnormal or pathological conditions existing in sophomore women at last year's medical and physical examination. Conditions improved either by physical, medical, or surgical treatment.

IMPROVED CONDITIONS

<i>Heart</i>			<i>Menstruation</i>		
Heart conditions improved....	7	1.7	Number of cases of dysmen- orrhea improved.....	17	3.6
Overcoming frequent colds....	10	2.1	<i>Tonsils</i>		
<i>Teeth</i>			Diseased tonsils removed.....	10	2.1
Teeth receiving dental attention	27	5.8	Improved by treatment.....	1	.002
<i>Eyes</i>			<i>Constipation</i>		
Refraction and diseased condi- tions	21	4.4	Cases improved by good food, hygiene, and exercise.....	15	3.2
<i>Thyroid</i>			<i>Headaches</i>		
Cases of hyperplasia improved by treatment	21	4.4	Cases improved by care of ali- mentary tract and improve- ment in eyes.....	13	2.7
Cases improved by thyroidec- tomy	1	.002	Total number of improvements	143	30.5

JUNIORS' PHYSICAL AND MEDICAL EXAMINATION

NUMBER OF WOMEN EXAMINED, "A" CLASSIFICATION—155

<i>Heart</i>			<i>Teeth</i>			
	No.	Pct.		No.	Pct.	
Irregular	9	5.8	Excellent	8	5.1	
Murmurs {	Mitral regurgitation	4	2.5	Good	94	58.0
	Mitral stenosis.....	1	.006	Fair	47	30.3
	Aortic	1	.006	Poor	10	6.4
	Hypertrophied heart	1	.006			
<i>Lungs</i>			<i>Eyes</i>			
Fair (includes excursion and conditions of lungs).....	8	11	Glasses worn	47	36.3	
Poor (condition and rales)....	4	2.5				
<i>Tonsils</i>			<i>Menstruation</i>			
Tonsillectomies	41	26.4	Regular	142	91	
Tonsils needing attention.....	3	1.9	Irregular	13	8	
Hypertrophied	3	1.9	Dysmenorrhea	22	14.2	
<i>Thyroid</i>			Women in bed some part of menstrual period.....	11	7.0	
Simple hyperplasia, also toxic conditions	56	36.1	Constipation	13	8	
Thyroid receiving treatment...	3	1.9	Headches	13	8	
Thyroidectomies	1	.006	Appendectomies	3	1.9	
			Albumin	5	3.2	
			Nutrition (women 10 pounds or more underweight).....	6	3.8	

SENIORS' PHYSICAL AND MEDICAL EXAMINATION—1922-1923

NUMBER OF WOMEN EXAMINED—74

<i>Heart</i>			No.	Pct.	
	No.	Pct.	Fair	28	37.8
Irregular	3	4	Poor (includes condition of gums)	8	10.7
Murmurs {		2.4			
{ Mitral regurgitation	2				
{ Mitral stenosis.....	1	1			
{ Aortic regurgitation	3	4			
<i>Lungs</i>			<i>Eyes</i>		
Fair (includes excursion of air and condition of tissue)....	10	13.0	Glasses worn	28	37.8
Poor (includes excursion of air and condition of tissue and rales)	2	2	Eye conditions needing attention	9	12.1
			(Including diseased conditions)		
<i>Tonsils</i>			<i>Menstruation</i>		
Tonsillectomies	17	22.9	Regular	68	91.7
Need attention	3	4	Irregular	6	8.2
Adenoids	7	9.4	Dysmenorrhea	16	21.6
<i>Thyroid</i>			Rest (in bed some part of period)	3	4.00
Hyperplasia of thyroid.....	31	41.8	<i>Constipation</i>		
Receiving treatment.....	3	4	Chronic and occasionally.....	8	10.7
Thyroidectomy	1	1	Headaches	9	12.1
<i>Teeth</i>			Nutrition (under weight 10 pounds or more).....	2	2.4
Excellent	2	2	Appendectomies	2	2.4
Good	36	48.6	Hernia	1	1
			Albumin	2	2.4

ADA J. WRIGHT, *Medical Examiner.*

ANNUAL REPORT OHIO STATE UNIVERSITY Y. M. C. A.
TO THE BOARD OF ADVISERS

JUNE 1, 1922, TO JUNE 1, 1923

For the University Y. M. C. A., as well as the rest of the University, the past year has been one of adjustment. On the whole we have been able to meet the situation well, and there are some accomplishments in which we may take real pride. We take them in the order of their occurrence.

Mr. Hoyt remained through the month of June in order to handle the rush which accompanies the opening of Summer School and to get the Student Handbook out while the Secretary took a delegation of 10 students to the Lake Geneva Conference. We began two new forms of service during the summer, the first of which was a series of five Wednesday afternoon outdoor Vesper services held in the Hollow. Pastors of neighborhood churches were the speakers. The second innovation was the Saturday afternoon trips to points of interest in and near the city. Five of these trips were taken with an average attendance of 45.

The Summer School for Rural Pastors was held again this year and we were able to assist these men in getting settled as well as by conducting a stunt night which 40 of them declared most enjoyable.

During September 1300 letters were sent out to incoming freshmen and their advisers (upperclassmen). Four thousand handbooks were distributed during the first few weeks of school. An information booth was maintained in University Hall during the first two days of registration and as usual the office was crowded during the week preceding and the week after classes began.

We were given the privilege of beginning and ending the program of opening week for freshmen. We did the first with the "Y" reception and the second with the President's address to freshmen men and women.

Our membership campaign, carried on through the year has brought us 1245 members who have contributed \$1599.75. The faculty has contributed \$945.00 for our own work and to the Y. W. C. A. proportionately. Parents of students have contributed \$498.50. This last has been of immense help and shows that parents of students believe we are doing valuable work for their boys.

Through co-operation between the University "Y" and Columbus Chamber of Commerce 200 out-of-town freshmen men were entertained in the homes of Columbus people for dinner on the second Sunday of the school year. Everybody concerned was delighted with the results of this effort and this will become an annual event.

The Social-service Committee, working at four points, has used 72 men in carrying out its program. They have co-operated with several agencies in doing a splendid piece of work throughout the winter.

Three hundred and eighty-six men were used as Freshman Advisers. They functioned very well and in many cases that came to our personal attention these men were doing a genuine service.

The Freshman Cabinet has enlisted 36 men for service during at least part of the year and as usual have had some excellent material trained for the upperclass Cabinet by the end of the year.

The Social Committee provided entertainment for 3200 people at the "Warmer" and "Mixer" besides holding several smaller parties during the year reaching perhaps 200 others. The annual Christmas celebration was under the direction of this committee and 800 people joined in making this a joyous event and one worthy of the season.

Twenty-two organizations had representatives present at our Fraternity Pledge Managers' meetings. These were eight in number and were addressed by faculty people on subjects of interest to such a group. Four other groups were held at fraternity houses. This is one part of our program that should be strengthened.

Gospel Teams have been sent to Groveport, Hilliards, and Laneville besides several points in the city. Under our present schedule men cannot get away for more than week-end trips, which is a handicap when arranging dates.

Eighteen men have been working with Juvenile Court boys. This is a difficult work and results are not reducible to figures, but we feel that this branch of our work is very much worth while.

The Friendly Relations Committee has given two parties for Foreign Students of whom we now have 65. The attitude of the campus toward foreign students is all that could be desired, but it is the function of this committee to multiply those personal contacts which help us to understand each other better. Securing Christmas-dinner invitations for these men is an example of the committee's work.

In our Religious Work program the President's Easter meetings, interrupted by vacation though they were, and Fred B. Smith's visit, stand out most prominently. We need make no comment on the President's meetings. They are unique in State University annals. In Mr. Smith we had a powerful speaker with fine personality and unusual appeal to college students. The Life-work Conference held in connection with these meetings conserved results in the right way. The Universal Day of Prayer was observed jointly with the Y. W. C. A. and several small meetings of an inspirational nature were held. The spiritual tone of the Cabinet is excellent and worthy of commendation. The student officers appreciate their responsibility and meet weekly for conference and planning.

Some mention should also be made of the cordial relation existing between the pastors of the University churches and ourselves. We have been able to co-operate most effectively in our common cause.

The Visitation Committee has been calling at the University Hospital regularly and their visits are much appreciated. The Missionary Education chairman co-operates with the Student Volunteer Band in keeping the student body, in a quiet way, the appeal of the foreign field. The visit of Dr. Paul Harrison of Arabia helped in this effort very much.

In this connection we should mention visits to the campus of the Chinese, Japanese, and Filipino Friendly Relations secretaries, of A. J. ("Dad") Elliott of the International Committee, Mr. Rhodes and Mr. Seamans of the State Committee, and Floyd McClure '19 of China. These men, though only stopping a short time here, each contributed through their personal contacts to the sum total of the work the Association is striving to accomplish.

In the compass of such a report as this we cannot mention many items of interest such as the distribution of 100 copies of the "Manhood of the Master" to Sunday-school classes without charge, the attendance of three delegates at

the International Convention, the use of 190 men in the Prague Campaign to which the men of the University pledged more than \$1500, providing rooms for the annual Educational Conference, and like services.

The Employment Bureau under the direction of Mr. Hoyt has had its most successful year, giving out 920 jobs with a total value of \$44,220. This is a story in itself but reduced to a sentence the fact is that no man coming into the office this year willing to work was forced to leave school for lack of funds.

The Allen H. Hoskins Memorial Foundation loan fund for foreign students has been increased \$150 during the year and, as was anticipated, is filling a long-felt want among this group of students. The University loan funds are very inadequate even for our own students and non-residents are barred from their use.

As usual we have obtained rooms for 75 per cent of the out-of-town men students, have co-operated with the Student Council and Boost Ohio Committee in various projects during the year, and as a result are closely in touch with the student-governing bodies. We have the confidence of students in general and this next year, our fortieth, should see some genuine advances made in the promotion of the work of the Association.

Impressive though these facts and figures may be, we are only entering the borders of our field of opportunity. Two thousand freshman men will enter the University in October, and that fact alone indicates the magnitude of our task. Shall we not bend every energy to make the coming year one that in later years will be looked upon as outstanding in the achievement of His cause upon the campus of the Ohio State University?

Respectfully submitted,

J. A. PARK.

REPORT OF AUDITOR OF STUDENT ORGANIZATIONS

PRESIDENT W. O. THOMPSON, *Ohio State University*:

DEAR SIR—I submit herewith a report on the auditing of the student organizations at the Ohio State University for the year 1922-1923.

The Student-organizations Department of the Ohio State University audited the accounts of 84 student organizations during the school year 1922-1923—the first full year of its existence.

The three months during which the system was operated in the preceding school year made it possible for the Department to start immediately at the beginning of the year just closed to enforce fully all of the requirements of the auditing plan.

A uniform system of bookkeeping has been used by all organizations, the necessary forms and supplies being furnished by the Department at cost. The reports of all treasurers have been audited carefully, the time and number of audits depending upon the need of each individual organization. With one or two exceptions all organization managers have bank accounts. The receipts have been verified and checked against the bank deposits. Bills have been submitted for disbursements and all payments have been made by check excepting in a few cases in which it proved impracticable to do so. Receipts and disbursements have been classified in order to show exactly the source of income and the disposition of funds.

In addition to the organizations included in the report which follows, aid has been given to social fraternities and sororities which are not required to submit their accounts for auditing. The Department will gladly render similar service to other organizations if requested.

Eighteen of the 84 organizations whose accounts were audited showed deficits for the year, and were forced to draw upon balances from previous years to meet these deficits. However, all of these handled only small amounts of money and their deficits were correspondingly small. The total losses for these 18 organizations during the year were \$423.18, while the remaining number showed total gains of \$16,649.75 for the same period, showing the splendid financial condition of the student activities as a whole.

The balances from most organizations are kept in permanent accounts in the names of the organizations in local banks. A study of the reports will show the disposition of the balances accruing from the Junior Prom, the Men's and Women's Student Council Dances, the Men's Panhellenic Dance, the Ohio State University Band Dance, and the Sophomore Football Dance. The balance from the Men's Glee Club is turned over to the Manager of the Glee Club and the balances from the sale of Commencement Invitation sand from the Senior Prom are divided among members of the respective committees. The profits of some of the student publications are divided between the Sinking Funds and members of the staffs.

A great deal of time has been devoted during the past year to the study of the financial condition of such publications. The managers of these magazines handle large sums of money derived from both local and national advertisers and from the entire student body. This creates a large general interest in their financial affairs.

This Department feels that all publications have been handled in a businesslike manner and with the utmost care in the disbursing of funds in order to give the greatest service to the students. This is shown by the fact that all publications are of a high standard and, with the exception of the Ohio State Engineer, have shown decided financial gains. Following is an explanation of the division of the annual balances between the Sinking Funds and the Editors and Managers.

THE AGRICULTURAL STUDENT

The Editor and Business Manager of the Agricultural Student share equally the profits earned excepting 10 per cent, which is paid to the Agricultural Student Sinking Fund.

THE CANDLE

Neither the Editor nor the Business Manager receive any remuneration for services rendered. The balance is kept in a permanent account for future use. There is no Sinking Fund.

THE MAKIO

The Makio Sinking Fund is paid from the profits of the Makio on the following basis: A profit of \$500 is exempt from Sinking Fund requirements. On the next \$500 profit 5 per cent is paid into the Sinking Fund and on all profits greater than \$1000, 10 per cent is paid into the Sinking Fund. Thus, with a profit of \$3934.35 as earned by this year's Makio, the Sinking Fund was paid \$319.01, which is 8.1 per cent of the total profit. The Editor and the Business Manager share equally the remainder of the profits.

THE OHIO STATE ENGINEER

The staff of the Ohio State Engineer is not paid. The balance is kept in a permanent account in a local bank. This year's publication was forced to take care of a deficit of \$51.40 incurred during the previous year which accounts for the deficit of \$18.75 shown for the year just closed.

THE OHIO STATE PHOENIX

All profits from the Ohio State Phoenix have heretofore been turned over to the Sinking Fund of the Ohio State Phoenix. Because of the success of this year's magazine, the Editor and Business Manager each was paid \$25.00, the remainder being turned over to the Sinking Fund. On this basis, the Sinking Fund received 25 per cent of this year's profits.

THE SUN DIAL

The profits from the Sun Dial are divided equally among the Editor, the Business Manager, the Art Editor, and the Sinking Fund in the percentages of 35, 35, 15, and 15, respectively.

With the Agricultural Student paying 10 per cent of its profits into the Sinking Fund, the Makio 8.1 per cent, the Sun Dial 15 per cent, and the Ohio State Phoenix 26 per cent, and the Editors and Business Managers of these publications being paid for their services, while the staff of the Ohio State Engineer and the Candle receive nothing there has been criticism of the lack of uniformity of the system. With the presentation of these figures, it is hoped that a satisfactory plan can be worked out for the future.

The University has financed the auditing system during the year 1922-1923. A charge has been placed upon student organizations during that time, however, to maintain the office in the future. This charge is based on the

receipts of organizations at the following rates: 2 per cent on all receipts less than \$1000, 1½ per cent on all receipts between \$1000 and \$5000, 1 per cent on all receipts between \$5000 and \$10,000, and ½ per cent on all receipts over \$10,000. Some organizations have not been able to pay for this service at this time because of lack of funds. In these cases, the assessments have been made with the understanding that they will be paid in the future. A detailed account of the income derived from the supervision of accounts will be found in the Student Organizations report on page

The following resolution of the Board of Trustees of the Ohio State University which authorized the establishing of the auditing system shows the exact scope of the work done by the Department:

Be It Resolved That: For the purpose of establishing a uniform system of accounting among student organizations of the University, and of providing for a full and complete report upon contracts, receipts, and expenditure, and for an official audit of all books and accounts of such organizations, the President of the University is hereby authorized and directed to prepare the necessary regulations, and to secure the necessary personnel, in order to carry out the above purposes, and the President is hereby authorized to distribute the cost of this service proportionately upon the organizations served:

Be it further resolved, and this resolution go into effect at once, that said regulations shall be made applicable to such organizations as the President may from time to time designate.

RULES AND REGULATIONS PRESCRIBED BY THE PRESIDENT OF THE UNIVERSITY

The President of the University has prescribed the following rules for the purpose of establishing a uniform system of accounting among student organizations of the University, and of providing for a full and complete report upon contracts, receipts, and expenditures, and for an official audit of all books and accounts of said organizations.

Said rules shall be complied with by such organizations as the President of the University shall designate.

All books, records, blanks, and tickets shall be secured from the Auditor of Student Organizations of the University. These records will be supplied to the organizations at cost.

The Treasurer shall enter promptly all items in the proper records; all entries to be made in ink and according to the following procedure:

BUDGET

Each organization is required to submit in duplicate a budget for the fiscal year. This budget shall contain an itemized list of estimated receipts and expenditures and shall be signed by the President and Treasurer of the organization. After approval one copy will be returned to the organization.

A record of all actual receipts and expenditures will be kept so that the estimated budget will not be exceeded.

RECEIPTS

The Official Receipt must be given for all moneys received.

The Treasurer shall deposit promptly all moneys to the credit of the organization and under its official name in some local bank.

Each receipt must be entered in the Record of Cash Receipts.

EXPENDITURES

No contracts shall be entered into or purchases of any kind made except upon official order blank.

All bills shall be paid by check. Bills should be numbered corresponding to check and filed. The Treasurer shall draw his check only in payment of bills properly approved.

All checks must be entered in the Record of Disbursements.

TICKETS

All tickets for dances, entertainments, or meetings of any kind where an admission fee is to be charged, shall be secured from the Auditor of Student Organizations, who shall keep an accounting of same. The ticket takers will be supplied by the University.

ADVERTISING CONTRACTS

Advertising contracts shall be made only on the official form furnished by the University.

LEDGER

A ledger account should be set up for each member of the organization. Each member should be debited with the annual dues or any assessments decided upon by the organization.

Advertising contracts should be debited to the proper account in the ledger.

Each receipt should be credited to the proper account in the ledger.

AUDIT

All books and vouchers shall be submitted to the Auditor of Student Organizations at least twice each year, and more frequently if requested. When the Treasurer is notified by the Auditor of Student Organizations that an audit is required, he should:

1. Have Bank Book balanced.
2. Make all entries to date.
3. Send to the Auditor of Student Organizations
 - a. Bank Book and canceled checks.
 - b. Receipt Books.
 - c. Approved Bills.
 - d. Order Books.
 - e. Advertising Contracts.
 - f. Ledger Accounts.
 - g. Record of Receipts and Disbursements.

Respectfully submitted,

EDITH M. AUCH, *Auditor of Student Organizations.*

STUDENT ORGANIZATIONS—THE OHIO STATE UNIVERSITY—1922-1923

182

Organization	Number of Audits made	Total Receipts 1922-1923	Total Disbursements 1922-1923	Balance or Deficit on year	Balance or Deficit beginning of year	Balance or Deficit end of year
1. Agricultural Student*.....	6	\$ 2,814.14	\$ 2,246.05	\$ 568.09	.....	\$ 568.09
2. All Agricultural Council.....	1	623.18	569.98	53.20	.....	53.20
3. Alpha Psi Delta.....	2	30.00	6.95	23.05	\$ 28.60	51.65
4. Alumni Committee, Senior Class.....	1	2,511.00	2,511.00	.....	.....	.....
5. American Institute of Electrical Engineers.....	3	104.00	99.55	4.45	.....	4.45
6. American Institute of Mining Engineers.....	1	13.13	11.90	1.23	3.82	5.05
7. American Legion.....	5	341.50	399.07	—57.57	122.00	64.43
8. Browning Dramatic Society.....	3	799.53	694.48	105.05	185.32	290.37
9. Bucket and Dipper.....	2	163.00	162.91	.09	—62	—53
10. Cadet Officers' Club.....	4	1,032.54	995.01	37.53	.....	37.53
11. The Candle*.....	1	279.65	200.20	79.45	.....	79.45
12. Chimes.....	3	313.71	216.70	97.01	5.45	102.46
13. Cincinnati Club.....	2	8.50	1.45	7.05	.....	7.05
14. College of Commerce, Student Council.....	1	433.72	467.00	—33.28	33.50	.22
15. Commencement Invitations Committee, Senior Class.....	2	3,425.00	3,235.15	189.85	.....	189.85
16. Delta Sigma Rho.....	1	145.40	146.64	—1.24	1.50	.26
17. Engineers' Council.....	2	386.84	370.74	16.10	47.50	63.60
18. Episcopal Club.....	3	72.29	56.64	15.65	.....	15.65
19. Eta Kappa Nu.....	3	666.28	658.29	7.99	9.08	17.07
20. French Club.....	3	244.41	211.71	32.70	.....	32.70
21. Forum.....	1	25.00	42.80	—17.80	24.88	7.08
22. Freshman Girls.....	1	135.90	65.42	70.48	.....	70.48
23. Freshman Girls' Glee Club.....	3	61.30	61.30	.....	.....	.....
24. Girls' Glee Club.....	4	1,078.06	1,063.85	14.21	.23	14.44
25. History Club.....	2	82.50	71.55	10.95	7.40	18.35
26. Home Economics Club.....	3	268.52	183.55	84.97	8.06	93.03
27. Horticultural Society.....	3	374.90	368.98	5.92	48.59	54.51
28. Junior Prom.....	1	930.00	929.94	.06	.....	.06
29. Kappa Phi.....	6	1,587.38	1,583.94	3.44	79.29	82.73
30. Kappa Phi Savings Account.....	5	114.07	176.85	—62.78	70.75	7.97
31. Latin League.....	3	44.00	60.82	—16.82	17.10	.28
32. Makio*.....	5	21,253.11	17,318.76	3,934.35	.....	3,934.35

THE OHIO STATE UNIVERSITY

STUDENT ORGANIZATIONS—THE OHIO STATE UNIVERSITY—1922-1923—Continued

Organization	Number of Audits made	Total Receipts 1922-1923	Total Dis- bursements 1922-1923	Balance or Deficit on year	Balance or Deficit begin- ning of year	Balance or Deficit end of year
33. Memorial Committee, Senior Class.....	1	4,085.00	.....	4,085.00	.....	4,085.00
34. Men's and Women's Student Council Dances.....	9	816.00	377.15	438.85	.....	438.85
35. Men's Glee Club.....	3	2,327.75	2,293.62	34.13	22.00	56.13
36. Men's Panhellenic Council Dance.....	1	340.00	320.24	19.76	.....	19.76
37. Men's Student Council.....	4	3,356.10	3,045.86	310.24	63.60	373.84
38. Mortar Board.....	3	286.81	220.30	66.51	26.45	92.96
39. Natural History Club.....	2	41.25	37.86	3.39	4.26	7.65
40. Newman Club.....	2	174.50	211.07	—36.57	38.90	2.33
41. Ohio State Engineer*.....	5	1,339.61	1,358.36	—18.75	46.34	27.59
42. Ohio State Phoenix*.....	5	1,329.53	1,261.94	67.59	.....	67.59
43. Ohio State University Band.....	1	6,823.89	6,800.73	23.16	.....	23.16
44. Ohio State University Band Dance.....	1	286.45	116.20	170.25	.....	170.25
45. Ohio State University Orchestra.....	3	260.00	226.67	33.33	5.00	38.33
46. Ohio State University Panhellenic Association.....	3	568.26	427.57	140.69	81.21	221.90
47. Ohio State University Pharmaceutical Association.....	1	112.50	78.15	34.35	5.25	39.60
48. Ohio State University Rifle Club.....	2	410.50	410.50	.....	.....	.....
49. Orton Geological Society.....	2	8.30	4.80	3.50	17.30	20.80
50. Oxley Hall.....	3	107.25	94.93	12.32	13.50	25.82
51. Pen and Brush Club.....	2	33.50	35.01	—1.51	3.31	1.80
52. Phi Delta Kappa.....	2	300.00	308.45	—8.45	61.46	53.01
53. Philomathean Literary Society.....	3	72.00	62.49	9.51	.....	9.51
54. Philosophy Club.....	2	31.65	41.70	—10.05	14.51	4.46
55. Pistol Club of Ohio State University.....	2	162.00	156.50	5.50	.....	5.50
56. Pi Delta Epsilon.....	3	357.64	336.13	21.51	.....	21.51
57. Pi Lambda Theta.....	3	447.69	426.99	20.70	15.87	36.57
58. Political Science Club.....	3	38.00	37.25	.75	.....	.75
59. Progressive Dairy Club.....	3	1,063.17	1,015.35	47.82	33.34	81.16
60. Psychology Club.....	3	8.50	9.49	—99	2.77	1.78
61. Saddle and Sirlain Club.....	3	265.30	194.56	70.74	20.32	91.06
62. Scabbard and Blade.....	3	981.26	902.94	78.32	226.05	304.37
63. Scarlet Mask Club.....	3	9,336.11	8,932.75	403.36	32.10	435.46
64. Senior Prom.....	1	745.00	706.00	39.00	.....	39.00

STUDENT ORGANIZATIONS—THE OHIO STATE UNIVERSITY—1922-1923—Concluded

184

THE OHIO STATE UNIVERSITY

Organization	Number of Audits made	Total Receipts 1922-1923	Total Dis- bursements 1922-1923	Balance or Deficit on year	Balance or Deficit begin- ning of year	Balance or Deficit end of year
65. Sigma Delta Chi.....	2	.....	.....	.....	.....	.....
66. Sigma Delta Phi.....	3	209.10	242.98	—33.88	42.67	8.79
67. Sophomore Football Dance.....	1	400.00	311.18	88.82	.....	88.82
68. Spanish Play.....	1	136.90	54.75	82.15	.....	82.15
69. Sphinx Society.....	1	171.00	217.42	—46.42	96.30	49.88
70. Strollers	3	3,576.26	3,350.69	225.67	704.77	930.44
71. Student Chemical Society.....	1	103.25	92.07	11.18	9.11	20.29
72. Student Organizations.....	1	1,045.98	58.99	986.99	.....	986.99
73. Sun Dial*.....	11	11,372.35	9,047.18	2,325.17	.....	2,325.17
74. Tau Lambda.....	3	656.55	581.28	75.27	21.25	96.52
75. Theta Sigma Phi.....	3	392.72	400.93	—8.21	15.23	7.02
76. Townshend Agricultural Society.....	3	132.75	55.40	77.35	3.38	80.73
77. Women's Athletic Association.....	2	860.69	880.69	—20.48	28.59	8.11
78. Women's Loan Fund.....	2	1,344.79	592.18	752.61	77.78	830.39
79. Woman's Ohio Committee.....	2	.....	46.30	—46.30	68.36	22.06
80. Women's Panhellenic Association.....	2	83.50	71.67	11.83	58.75	70.58
81. Women's Panhellenic Council Dance.....	1	193.50	180.00	13.50	.....	13.50
82. Women's Student Council.....	5	4,317.49	3,969.13	348.36	573.58	921.94
83. Y. M. C. A.	11	5,791.49	5,712.64	78.85	73.46	152.31
84. Y. W. C. A.	9	2,839.42	2,841.50	—2.08	163.01	160.93
Totals.....	239	\$111,440.12	\$95,213.55	\$16,226.57	\$3,363.89	\$19,590.46

* Since all receipts from advertising had not come in when this report was submitted, the data are based on Income and Expense in lieu of Receipts and Disbursements.

SUMMARY

Total Receipts audited during year 1922-1923.....	\$111,440.12
Total number of audits made.....	239
Number of organizations showing a loss for the year.....	18
Number of organizations showing a gain for the year.....	66
Net gain of all student organizations during year 1922-1923.....	\$ 16,226.57

RELIGIOUS CENSUS—1922-1923

Adventist.....	8	Lutheran	455
Armenian	1	Mennonite	6
Baptist.....	370	Methodist	2664
Brethren	33	Methodist (Free)	1
Catholic	624	Methodist Protestant.....	52
Christian	210	Methodist, South.....	5
Christian Science.....	87	Moravian	6
Christian Union.....	1	Nazarene	1
Church of Christ.....	206	New Thought.....	2
Church of God.....	4	Pentecostal	1
Church of New Jerusalem.....	1	Presbyterian.....	1317
Community	28	Progressive Brethren	1
Congregational	383	Protestant	58
Episcopal	359	Reformed	145
Evangelical.....	104	Russian Orthodox.....	2
Friends	30	Spiritualist	1
Greek Catholic	1	Swedenborgian	2
Greek Orthodox	7	Theosophical Society.....	2
Gregorian	1	Unitarian	21
Holy Roller	2	United Brethren.....	141
International Bible Students.....	4	United Presbyterian.....	74
Jewish	468	Universalist	29
Latter Day Saints.....	2	None given	662
London Society.....	1		
		Total.....	8583

CENSUS OF OCCUPATION OF FATHER OR GUARDIAN—1922-1923

Accountants, bookkeepers, clerks, etc.....	221	Electricians.....	17
Advertising	7	Engineers	197
Architects and draftsmen.....	28	Farmers.....	1212
Army and navy.....	7	Fish dealers.....	2
Artisans	102	Florists, gardeners, and nurseymen.....	55
Attorneys and judges.....	200	Foremen	106
Auctioneers	1	Garage owners and workers.....	10
Authors.....	4	Government, State, County, City employees and officials.....	238
Auto dealers	13	Grain and lumber dealers.....	65
Bakers and confectioners.....	24	Grocers, wholesale and retail.....	125
Bankers.....	80	Hotel and restaurant employees and owners	30
Barbers	29	Inspectors	24
Blacksmiths	18	Insurance	82
Brokers	28	Iron, steel workers, molders, etc.....	67
Businessmen.....	75	Janitors.....	15
Butchers and meat dealers.....	23	Jewelers	25
Buyers	8	Jobbers.....	4
Carpenters	116	Junk dealers	10
Chefs.....	4	Laborers	55
Chemists	8	Laundrymen.....	2
Chiroprpodists.....	2	Lecturers	7
Clergymen.....	131	Librarians	1
Coal producers and dealers.....	37	Liverymen and teamsters.....	6
Contractors.....	214	Livestock dealers.....	26
Dairymen and creamerymen.....	25	Machinists.....	87
Decorators and painters.....	39	Manufacturers.....	182
Dentists.....	55	Mechanics	82
Detectives	4	Merchants.....	541
Designers.....	6	Metallurgists	2
Druggists.....	57		
Editors and newspapermen	41		

Millers	13	Secretaries and treasurers	39
Mine operators and employees	33	Shoe workers and repairers	17
Musicians and artists	16	Silver fox breeders	2
Night watchmen	5	Statesmen	3
Notary public	1	Students	4
Oil producers and dealers	46	Superintendents and managers	235
Opticians and optometrists	16	Superintendents and principals (school) ..	38
Peddlers	8	Tailors	63
Photographers	8	Teachers and professors	140
Physicians and surgeons	223	Telegraph and telephone men	29
Plasterers	3	Theater operators and owners	12
Plumbers	33	Transfer and storage	14
Printers	38	Undertakers	12
Publishers	11	Veterinarians	9
Railway, navigation, street railway officials and employees	277	Wholesale dealers	19
Real estate	154	Y. M. C. A. and social service	14
Research	1	Mother given as guardian	750
Retired	303	None given, deceased	777
Salesmen	335	Total	8583

ENROLLMENT BY STATES AND FOREIGN COUNTRIES—1922-1923

Alabama	4	Iowa	6	Oklahoma	9
Argentina Republic	6	Japan	5	Orange Free State	2
Armenia	1	Kentucky	24	Oregon	2
Brazil	1	Korea	2	Pennsylvania	74
California	7	Louisiana	5	Peru	3
Canada	3	Maine	1	Philippines	16
China	25	Maryland	5	Porto Rico	2
Colombia	3	Massachusetts	13	South Carolina	3
Chile	1	Mexico	2	South Dakota	2
Colorado	3	Michigan	20	Tennessee	4
Connecticut	1	Minnesota	4	Texas	10
Delaware	1	Mississippi	1	Turkey	1
District of Columbia	9	Missouri	6	Utah	1
Florida	6	Nebraska	2	Vermont	3
France	1	New Hampshire	1	Virginia	11
Georgia	2	New Jersey	10	Washington	1
Greece	1	New Mexico	1	West Virginia	77
Hawaii	1	New York	37	Wisconsin	9
Illinois	22	North Carolina	2	Wyoming	2
India	5	North Dakota	2		
Indiana	67	Ohio	8032	Total	8583

ENROLLMENT IN OHIO BY COUNTIES—1922-1923

Adams	9	Crawford	68	Hardin	32
Allen	67	Cuyahoga	713	Harrison	33
Ashland	22	Darke	60	Henry	10
Ashtabula	60	Defiance	14	Highland	39
Athens	31	Delaware	46	Hocking	27
Auglaize	40	Erie	59	Holmes	19
Belmont	80	Fairfield	106	Holmes	52
Brown	15	Fayette	34	Huron	34
Butler	54	Franklin	3219	Jackson	34
Carroll	10	Fulton	29	Jefferson	66
Champaign	44	Gallia	27	Knox	56
Clark	71	Geauga	12	Lake	37
Clermont	18	Greene	42	Lawrence	30
Clinton	27	Guernsey	64	Licking	107
Columbiana	70	Hamilton	83	Licking	44
Coshocton	46	Hancock	32	Logan	82
				Lorain	121
				Lucas	

Madison	54	Paulding	22	Summit	110
Mahoning	123	Perry	37	Trumbull	63
Marion	69	Pickaway	59	Tuscarawas	67
Medina	49	Pike	17	Union	46
Meigs	22	Portage	50	Van Wert	26
Mercer	33	Preble	31	Vinton	9
Miami	59	Putnam	23	Warren	19
Monroe	26	Richland	53	Washington	48
Montgomery	175	Ross	65	Wayne	45
Morgan	22	Sandusky	42	Williams	38
Morrow	19	Scioto	60	Wood	38
Muskingum	98	Seneca	53	Wyandot	26
Noble	19	Shelby	21		
Ottawa	24	Stark	111	Total	8032

SUMMARY OF THE FINANCIAL STATEMENT

For the Year Ending June 30, 1923

(A complete detailed financial report for the fiscal year ended June 30, 1923, is printed in separate form and may be had upon application.)

Columbus, Ohio.

The financial statement presented herein is that part of the Annual Report of the Board of Trustees to the Governor of Ohio, which shows the financial condition of The Ohio State University for the fiscal year ended June 30, 1923.

CARL E. STEEB, *Secretary.*

CONSOLIDATED STATEMENT

Schedule A

INCOME AND EXPENDITURES

Description	Items	Total
Cash Balance July 1, 1922		\$ 159,150.18
Total Income for year, <i>Schedule B</i>	\$ 4,502,289.97	
Less funds paid to State Treasurer and not available for the University	2,712.29	
Total Available Income, <i>Schedule B</i>	\$ 4,499,577.68	
Total Expenditures for year, <i>Schedule C</i>	4,430,534.46	
Surplus for the year		\$ 69,043.22
Cash Balance June 30, 1923, <i>Schedule D</i>		\$ 228,193.40
ASSETS AND LIABILITIES		
Current Assets June 30, 1923, <i>Schedules D and F</i>	\$ 1,314,381.71	
Investment Assets June 30, 1923, <i>Schedules D and F</i>	1,082,875.87	
Educational Plant:		
Value of lands, buildings, and equipment, <i>Schedules D and F</i>	8,948,335.24	
Contingent Liabilities June 30, 1923, <i>Schedule F</i>		\$ 896,681.96
Investment Liabilities June 30, 1923, <i>Schedule F</i>		1,082,875.87
Capital Account, <i>Schedule F</i>		9,366,034.99
	\$11,345,592.82	\$11,345,592.82

THE OHIO STATE UNIVERSITY

Schedule B

INCOME		Schedule B	
	Description	Items	Total
INCOME FROM STUDENTS:			
	Tuition and incidental fees, <i>Schedule B-1</i>	\$ 387,503.50	
	Special fees, degrees, etc.....	6,458.78	
	Locker rent	8,233.00	
		\$ 402,195.28	
	Less amount due from U. S. Veterans' Bureau.....	5,444.00	\$ 396,751.28
INCOME FROM ENDOWMENTS:			
	For general purposes, <i>Schedule G</i>	13,045.88	
	For designated purposes, <i>Schedule H</i>	4,222.94	17,268.82
FEDERAL AID:			
	Land-grant Act of July 2, 1862, <i>Schedule G</i>	31,450.60	
	Land Grant—Virginia Military Lands— <i>Schedule G</i>	13,523.78	
	Additional Aid—Acts of August 30, 1890, and March 4, 1907	50,000.00	
	Agricultural Extension Work—Acts of May 8, 1914, and		
	July 24, 1919.....	228,690.10	323,664.48
STATE AID:			
	Current Expenses, <i>Schedule I</i>	2,032,087.49	
	Capital Improvements, <i>Schedule I</i>	756,696.22	
	Agricultural Extension, <i>Schedule I</i>	189,790.87	2,978,574.58
GIFTS FOR CURRENT EXPENSES:			
	For designated purposes, <i>Schedule B-2</i>	5,297.48	5,297.48
INCOME FROM OTHER SOURCES:			
	Architecture-Photo	734.75	
	Boys' and Girls' Club Work.....	6,514.49	
	Class of 1921—Interest on Gift.....	108.71	
	Commutation of Uniforms.....	50,996.38	
	County Agents' Funds from Counties.....	148,051.98	
	Dental Clinic	15,229.32	
	Dispensaries	1,047.56	
	Engineering Experiment Station Sales.....	2,220.00	
	Farm Bureau	2,494.66	
	Farmers' Institute Funds from Counties.....	15,400.00	
	Farm Rotary	47,536.37	
	Guidance School Operation.....	3,242.58	
	Homeopathic Clinic	4,835.05	
	Interest on Gift of Dr. Mendenhall.....	38.76	
	Lantern	15,465.77	
	Laundry	280.70	
	*Miscellaneous Sales	2,266.39	
	Ohio Biological Survey.....	4.50	
	*Rent	443.90	
	Sale of Coke from Gas Retort.....	908.03	
	State Board of Education (Smith-Hughes).....	62,545.28	
	U. S. Veterans' Bureau for Tuition Refunds.....	209.00	
	University Hospital	19,797.82	
	Veterinary Clinic	7,180.57	
	*Virginia Military Lands	2.00	407,604.57
DORMITORIES AND DINING HALLS:			
	Home Economics Cafeteria	25,215.84	
	Oxley Hall	31,460.18	56,676.02
COMMERCIAL ACCOUNTS:			
	University Press	50,050.89	
	Warehouse	266,401.85	316,452.74
	Total Income, <i>Schedule A</i>		\$ 4,502,289.97
	Less funds (*) paid to State Treasurer and not available		2,712.29
	for the University, <i>Schedule A</i>		\$ 4,499,577.68
	Total Available Income, <i>Schedule A</i>		

ANNUAL REPORT

189

CLASSIFIED EXPENDITURES

EXPENSES:	Description	Items	Schedule C	
			Total	
Salaries		\$ 2,328,046.04		
Advertising		656.31		
Boys' and Girls' Club Work.....		6,293.04		
Coal and gas.....		126,111.52		
Employees and extra labor.....		93,554.65		
Feed for livestock.....		14,361.82		
Field work, Agricultural Extension, including county agents		102,907.17		
Food supplies		19,353.94		
Freight and cartage.....		7,710.45		
Incidentals		69,501.74		
Laboratory and educational supplies.....		80,128.05		
Materials and general supplies.....		80,091.28		
Printing		50,113.82		
Refunds		50,172.73		
Repairs to equipment.....		8,504.59		
Scholarships and student aid.....		6,609.86		
Stationery and office supplies.....		39,661.72		
Telephone and telegraph.....		9,104.19		
Traveling expense		7,837.60		
Water		17,679.15		
Total Expenses, Schedules C-1 and C-2.....			\$ 3,118,399.67	
EQUIPMENT:				
Apparatus		\$ 28,653.35		
Books		22,123.03		
Collections		77.50		
Furniture and fixtures.....		22,270.95		
Livestock		14,234.62		
Machinery, tools, and appliances.....		12,571.78		
Total Equipment, Schedules C-1 and C-3.....			\$ 99,931.23	
LANDS		\$ 5,040.30		
NEW BUILDINGS		409,311.58		
ADDITIONS TO BUILDINGS.....		320,574.72		
IMPROVEMENTS		95,852.21		
Total, Schedules C-1 and C-4.....			\$ 830,778.81	
DORMITORIES AND DINING HALLS:				
Home Economics Cafeteria.....		\$ 24,092.59		
Oxley Hall		36,207.46		
Total Dormitories and Dining Halls.....			\$ 60,300.05	
COMMERCIAL:				
University Press		\$ 51,311.92		
Warehouse		269,812.78		
Total Commercial			\$ 321,124.70	
Total Expenditures, Schedules A and C-1.....			\$ 4,430,534.46	

BALANCE SHEET JUNE 30, 1923

ASSETS

CURRENT ASSETS:	Description	Items	Total
Cash in bank and on hand for current expense.....		\$ 228,193.40	
Deposits		454.00	
Auditor of State, Special Appropriations.....		896,681.96	
Warehouse (supplies per inventory).....		189,052.35	
Total Current Assets.....			\$ 1,314,381.71
INVESTMENT ASSETS:			
State Treasurer (irreducible debt of the State).....		\$ 1,055,227.81	
University Treasurer		27,648.06	
Total Investment Assets.....			1,082,875.87
EDUCATIONAL PLANT:			
Lands, buildings, and equipment.....			8,948,335.24
Total Assets			\$11,345,592.82

THE OHIO STATE UNIVERSITY

LIABILITIES

	Description	Items	Total
CURRENT LIABILITIES:			
	Special State Appropriations		\$ 896,681.96
ENDOWMENT FUNDS:			
	Funds for General Purposes, Invested.....	\$ 967,208.85	
	Funds for Designated Purposes, Invested.....	115,667.52	1,082,875.87
CAPITAL ACCOUNT:			
	Capital Account		9,366,034.99
	Total Liabilities		\$11,345,592.82

GIFTS FOR GENERAL AND DESIGNATED PURPOSES

The following items are turned into the State Treasury to the credit of Rotary funds for use by the University:

Name and Description	Amount
American Gas Association.....	\$ 1,337.26
A gift for research work in connection with the gas retort	
Class of 1922.....	1,494.00
A gift for the purchase of a piano for Pomerene Hall	
E. I. du Pont de Nemours Company.....	750.00
A gift for the support of a fellowship in the Department of Chemistry	
Grasselli Chemical Company.....	750.00
A gift for the support of a fellowship in the Department of Chemistry	
Charles F. Kettering.....	766.22
A gift for Homeopathic Research	
Ohio Gas and Oil Men's Association.....	200.00
A gift for the operation of the gas retort	
Total, Schedule B.....	\$ 5,297.48

GIFTS FOR ENDOWMENT PURPOSES

Name and Description	Amount
CHARLES CUTLER SHARP.....	\$17,000.00
A gift to establish the Sharp Library Fund.	
The income to be used to purchase books for the Department of Chemistry	

APPENDIX I

BOARD OF TRUSTEES—1922-1923

	Date Original Appointment	Term Expires
CHARLES F. KETTERING, Dayton.....	March 21, 1917	
LAWRENCE EVERETTE LAYBOURNE, Springfield.....	May 14, 1921	May 13, 1924
OSCAR E. BRADFUTE, Xenia.....	August 21, 1905	May 13, 1925
THOMAS C. MENDENHALL, Ravenna.....	June 16, 1919	May 13, 1926
BENJAMIN F. MCCANN, Dayton.....	May 13, 1913	May 13, 1927
*JOHN F. CUNNINGHAM, Cleveland.....	December 22, 1914	May 13, 1928
EGBERT H. MACK, Sandusky.....	December 12, 1922	May 13, 1928
JOHN KAISER, Marietta.....	February 25, 1915	May 13, 1929

* Succeeded by Egbert H. Mack.

OFFICERS OF THE BOARD

JOHN KAISER	Chairman
THOMAS C. MENDENHALL.....	Vice-Chairman
CARL E. STEEB.....	Secretary and Business Manager
JULIUS F. STONE.....	Treasurer

APPENDIX II

ADMINISTRATIVE OFFICERS

For the Year Ending June 30, 1923

WILLIAM OXLEY THOMPSON, D.D., LL.D.....	President
Office—University Hall, 99312; N. 476	
Residence—University Grounds, 2056	
CARL E. STEEB, B.Ph.	Secretary of the Board of Trustees and Business Manager
Office—University Hall (East End), 99332; N. 32.	
Residence—1956 Iuka Avenue, 5835	
EDITH D. COCKINS, B.A.	Registrar, University Editor, and Secretary of the Faculty
Office—101 University Hall, 99314	
Residence—1348 Neil Avenue, 16310	
BLAND L. STRADLEY, M.A.	University Examiner
Office—107 University Hall, 99353; N. 939	
Residence—318 West Seventh Avenue, N. 7454-J	
ELISABETH CONRAD, M.A., Ph.D.	Dean of Women
Office—Pomerene Hall, 99367; N. 3931-W	
Residence—1981 Indianola Avenue, 11252	
KATHERINE A. VOGEL.....	Executive Clerk
Office—University Hall, 99312; N. 476	
Residence—209 South Monroe Avenue, Franklin 2356-W	
RAY M. ROYER.....	Purchasing Agent
Office—University Hall (East End), 99374; N. 3222	
Residence—1828 Arlington Avenue, Hilltop 2850-J	
FRED E. JONES.....	Receiving Clerk
Office—Stores and Receiving Department, 99354; N. 3813	
Residence—255 Oakland Park Avenue, N. 3900-J	
CHARLES A. KUNTZ.....	Comptroller
Office—University Hall (East End), 99332; N. 32	
Residence—265 Tulane Road, N. 2240-J	
FLORIS D. HANE.....	Cashier
Office—University Hall (East End), 99332; N. 32	
Residence—1755 North Fourth Street, 11954	
WILLIAM C. MCCracken.....	Superintendent of Operation and Maintenance
Office—Service Building, 99370; N. 718	
Residence—8 West Woodruff Avenue, 11823	
JOSEPH N. BRADFORD.....	University Architect
Office—Brown Hall, 99361	
Residence—55 East Oakland Avenue, 14844	
JOSEPHINE MATTHEWS, B.Sc. (Dom. Sci.).....	House Superintendent—Oxley Hall
Office and Residence—Oxley Hall, 99352; N. 4146	
EDWARD S. DRAKE.....	Manager—Ohio Union
Office and Residence—Ohio Union, 99357; N. 1002	
Manager's private 'phone, 99359—2R	

APPENDIX III

Which shows the number of professors, officers, teachers, and other employees, and the position and compensation of each, as required by Section 7947 of an Act passed May 29, 1915.

<i>Name of Employee</i>	<i>Position</i>	<i>Salary</i>
William Oxley Thompson	President.....	\$10,000.00
COLLEGE OF AGRICULTURE		
Alfred Vivian	Dean.....	6,000.00
True G. Watson	Secretary of the College.....	2,700.00
Bernice E. Blue	Secretary to the Dean.....	1,200.00
AGRICULTURAL CHEMISTRY		
John F. Lyman	Professor.....	4,500.00
Thomas G. Phillips	Assistant Professor.....	2,750.00
Emory F. Almy	Instructor.....	1,800.00
Rachel Edgar	Instructor.....	1,200.00
Carl P. Hinkle	Assistant.....	900.00
Hoylande Young	Student Assistant.....	No salary
AGRICULTURAL EDUCATION		
W. F. Stewart	Professor.....	3,000.00
AGRICULTURAL ENGINEERING		
F. W. Ives	Professor.....	3,750.00
G. W. McCuen	Professor.....	3,600.00
P. B. Potter	Assistant Professor.....	3,300.00
C. O. Reed	Assistant Professor.....	3,000.00
Virgil Overholt	Assistant Professor (2 mos.).....	550.00
J. T. Miller	Mechanic.....	1,400.00
Everett C. Haughn	Assistant.....	1,110.00
Merle S. Klinck	Assistant.....	770.00
ANIMAL HUSBANDRY—INSTRUCTIONAL		
Carl W. Gay	Professor.....	6,000.00
C. S. Plumb	Professor.....	4,000.00
D. J. Kays	Professor.....	3,600.00
J. S. Coffey	Professor.....	3,500.00
C. T. Conklin	Assistant Professor.....	3,500.00
J. G. Bates	Assistant.....	500.00
William N. Wilkerson	Assistant.....	277.75
ANIMAL HUSBANDRY—EMPLOYEES		
David M. Fyffe	Superintendent of Livestock.....	1,800.00
Robert Watson	Groom.....	1,440.00
Howard T. Laws	Laborer.....	1,140.00
L. H. Myers	Laborer.....	960.00
George Taylor	Beef Cattle Herdsman.....	1,260.00
Cecil Bayes	Beef Cattle Herdsman.....	1,440.00
Paul Jackson	Dairy Cattle Herdsman.....	1,440.00
Ray Garrett	Assistant Dairy Cattle Herdsman.....	1,080.00
William Franklin	Shepherd.....	1,440.00
William Kloefer	Assistant Shepherd.....	900.00
Judson Solomon	Swine Herdsman.....	1,260.00
J. T. Laws	Assistant Swine Herdsman.....	1,080.00
William Whitacre	Pavilion Groom.....	960.00
*Kenneth Fankhauser	Laborer.....	100.00

ANNUAL REPORT

193

*Leonard Swanson	Laborer.....	140.00
Lonzo Bloomer	Teamster.....	960.00
*Alvin McAdow	Laborer.....	450.00
*Jefferson Severe	Laborer.....	360.00

BOTANY

E. N. Transeau	Professor.....	5,000.00
J. H. Schaffner	Professor.....	3,500.00
W. G. Stover	Professor.....	3,000.00
H. C. Sampson	Professor.....	3,000.00
A. E. Waller	Assistant Professor.....	3,000.00
L. H. Tiffany	Instructor.....	1,800.00
J. D. Sayre	Instructor.....	1,800.00
E. L. Stover	Instructor.....	1,700.00
Lois Lampe	Assistant.....	1,200.00
J. S. Crabb	Assistant.....	1,200.00
Sylvester Humphrey	Graduate Assistant.....	500.00
Ralph H. Hagelbarger	Graduate Assistant.....	500.00
Bernard S. Meyer	Graduate Assistant.....	500.00
Mary A. Hart	Student Assistant.....	300.00
Curtis May	Student Assistant.....	300.00
Harmon A. Runnells	Student Assistant.....	300.00
Howard W. Johnson	Student Assistant.....	300.00

DAIRYING

Oscar Erf	Professor.....	4,500.00
R. B. Stoltz	Assistant Professor.....	3,000.00
H. D. Drain	Assistant Professor.....	2,500.00
D. S. Kochheiser	Instructor.....	2,100.00
T. W. Lawler	Student Assistant.....	180.00
H. W. Marble	Student Assistant.....	180.00
*A. L. Bates	Laborer.....	180.00
*Mitsugi Satow	Laborer.....	360.00
*Kisaku Kitsuti	Laborer.....	180.00
*George Reynolds	Laborer.....	360.00

FARM CROPS

J. B. Park	Professor.....	4,000.00
C. J. Willard	Assistant Professor.....	2,700.00
C. G. Williams	Professor.....	No salary
H. L. Borst	Instructor.....	1,800.00
Ralph Livingston	Assistant.....	1,200.00
J. S. Cutler	Assistant.....	900.00
Marion T. Myers	Assistant.....	500.00

FARM OPERATIONS

A. E. Smith	Farm Foreman.....	2,000.00
Charles Pugh	Head Teamster.....	1,080.00
B. L. Johnson	Laborer.....	1,080.00
B. E. Stahl	Laborer.....	1,080.00
Marion Peck	Teamster.....	1,080.00
*Charles Carter	Teamster.....	630.00
John S. Long	Laborer.....	1,080.00
*J. W. Brooks	Laborer.....	720.00
*E. J. Day	Laborer.....	720.00
*Ira Blanchard	Laborer.....	630.00
John DeWitt	Mechanic.....	1,500.00
*Alonzo McKenzie	Laborer.....	481.15
*H. L. Bosart	Laborer.....	360.00
*S. N. Bell	Laborer.....	450.00
*Lloyd Blackburn	Mechanic.....	270.00

HOME ECONOMICS

Faith R. Lanman	Professor	4,000.00
Grace G. Walker	Professor	3,600.00
Maud G. Adams	Professor	1,800.00
June Findley	Assistant Professor	2,500.00
*Hughina McKay	Assistant Professor	1,875.00
Gladys McGill	Assistant Professor	2,500.00
Lelia McGuire	Instructor	2,000.00
Alice Donnelly	Instructor	2,200.00
Elsie E. Steiger	Instructor	1,500.00
Laurentza S. Hansen	Instructor	1,800.00
Katherine Bazore	Instructor	1,250.00
Josephine Brown	Instructor	1,400.00
Nell M. Beck	Assistant	900.00
Edith R. Nida	Assistant	450.00
Dorothy W. Newton	Student Assistant	270.00
Bernice D. Byers	Assistant	450.00
Beatrice B. Evans	Assistant	450.00
Helen Diehl	Assistant	135.00
Rama Edelon	Assistant	135.00

HORTICULTURE AND FORESTRY

W. Paddock	Professor	4,500.00
L. M. Montgomery	Professor	3,300.00
A. C. Hottes	Assistant Professor	2,750.00
P. H. Elwood	Assistant Professor	2,750.00
N. W. Scherer	Assistant Professor	2,250.00
F. G. Charles	Instructor	2,160.00
A. D. Taylor	Non-resident Professor	500.00
John Morrison	Assistant	1,740.00
John Hussey	Assistant	1,800.00
J. E. Shanck	Assistant	1,400.00

LAKE LABORATORY

F. H. Kreckler	Acting Director	500.00
Stern R. Williams	Professor Zoology	350.00
Malcolm E. Stickney	Professor Botany	350.00
C. H. Kennedy	Professor Entomology	350.00

POULTRY HUSBANDRY

F. S. Jacoby	Professor	3,500.00
Arthur Bayes	Superintendent Poultry Plant	1,680.00

RURAL ECONOMICS

J. I. Falconer	Professor	4,500.00
*Charles G. McBride	Assistant Professor	2,475.00
C. E. Lively	Assistant Professor	3,000.00
F. L. Morison	Instructor	2,250.00
John Dowler	Assistant	360.00
*Cecil F. Allen	Clerk	640.00
*Myrtle Souders	Clerk	320.00
Irma Earle	Clerk	960.00
Margie Hoffman	Clerk	960.00

SOILS

Firman E. Bear	Professor	4,500.00
Guy W. Conrey	Assistant Professor	3,000.00
George M. McClure	Instructor	2,400.00
Charles L. Thrash	Instructor	2,400.00
George Valley	Assistant	320.00
J. C. Leslie	Assistant	1,080.00
Elbert Stephenson	Assistant	1,080.00

ZOOLOGY AND ENTOMOLOGY

Raymond C. Osburn	Professor	5,000.00
Herbert Osborn	Research Professor	5,000.00
James S. Hine	Associated Professor and Curator	2,500.00
W. M. Barrows	Assistant Professor	3,000.00
F. H. Kreeker	Assistant Professor	3,000.00
D. M. DeLong	Assistant Professor	2,750.00
C. H. Kennedy	Assistant Professor	2,300.00
W. J. Kostir	Assistant Professor	2,500.00
E. L. Wickliff	Instructor	1,500.00
W. C. Kraatz	Instructor	900.00
Robert McCormick	Graduate Assistant	500.00
Linden Edwards	Graduate Assistant	500.00
Julia W. Jaster	Graduate Assistant	500.00
Frank M. Hull	Graduate Assistant	500.00
Edna L. Patterson	Graduate Assistant	500.00
Lawrence L. Huber	Instructor (Summer Quarter)	650.00
Claude R. Neiswander	Assistant (Summer Quarter)	300.00

COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

William E. Henderson	Dean	6,000.00
*Emery W. Balduf	Secretary	225.00
*Smiley M. Whinery	Secretary	2,475.00
Ruth Evans	Stenographer	960.00

AMERICAN HISTORY

G. W. Knight	Professor	5,000.00
H. C. Hockett	Professor	4,250.00
Arthur C. Cole	Professor	3,500.00
Carl Wittke	Assistant Professor	3,750.00
R. H. Shryock	Instructor	2,000.00
W. E. Marion	Instructor	1,800.00
*Lawrence F. Hill	Assistant Professor	1,875.00
*A. J. Beyer	Instructor	1,500.00

ENGLISH

J. V. Denney	Professor	6,000.00
J. R. Taylor	Professor	4,200.00
G. H. McKnight	Professor	4,500.00
W. L. Graves	Professor	3,600.00
E. L. Beck	Professor	3,500.00
V. A. Ketcham	Professor	3,500.00
C. E. Andrews	Assistant Professor	3,500.00
Milton Percival	Assistant Professor	3,000.00
J. F. Craig	Instructor	2,500.00
E. W. Wiley	Instructor	2,750.00
W. P. Sandford	Instructor	2,500.00
Gertrude L. Robinson	Instructor	1,800.00
Verona Dollinger	Instructor	1,800.00
Edith Sniffen	Instructor	1,800.00
Walter French	Instructor	1,800.00
Whittier Burnet	Instructor	1,800.00
Sada Harbarger	Instructor	2,000.00
Bernard Raymond	Instructor	1,800.00
Eleanor H. Percival	Instructor	1,500.00
Herman Miller	Instructor	1,800.00
Mary E. Ross	Instructor	1,500.00
John P. Fife	Instructor	1,500.00
Frank Grismer	Instructor	800.00
John M. Weed	Instructor	1,350.00
Edward F. Harden	Instructor	1,350.00

James Fullington	Instructor	1,350.00
Mary A. Hitchcock	Instructor	875.00
J. D. Harlor	Assistant	1,000.00
Florence E. Moore	Assistant	300.00
J. Phillip Schneider	Professor (Summer Quarter)	1,000.00
Henry Wilson	Instructor	1,125.00
Henry C. Koehler	Instructor	800.00
Robert Kane	Instructor	800.00
Harlan Hatcher	Instructor	800.00
Mary B. Housel	Instructor	800.00
Kenneth C. Randall	Instructor	800.00
Rupel J. Jones	Instructor	800.00

EUROPEAN HISTORY

W. H. Siebert	Professor	5,000.00
Edgar H. McNeal	Professor	4,000.00
G. A. Washburne	Assistant Professor	2,500.00
H. M. Stuckert	Assistant Professor	3,000.00
A. H. Noyes	Instructor	2,250.00
Samuel Rezneck	Instructor	1,800.00
*John R. Knipping	Assistant Professor	1,650.00

GEOLOGY

J. A. Bownocker	Professor	4,000.00
J. E. Carman	Professor	3,750.00
Roderick Peattie	Assistant Professor	3,000.00
Helen Morningstar	Instructor	2,000.00
Robert F. Webb	Instructor	2,500.00
R. E. Lamborn	Instructor	2,250.00
Paris B. Stockdale	Instructor	2,000.00
Howard L. Hamilton	Student Assistant	100.00
Allen F. Smith	Student Assistant	100.00
Stafford R. Taylor	Student Assistant	100.00
*W. A. Ver Wiebe	Assistant Professor	340.00

GERMAN

M. B. Evans	Professor	5,000.00
B. A. Eisenlohr	Professor	3,000.00
L. Bloomfield	Professor	4,000.00
May Thomas	Assistant Professor	2,100.00
Lambert A. Shears	Instructor	1,200.00

GREEK

George M. Bolling	Professor	5,000.00
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LATIN

A. W. Hodgman	Professor	3,500.00
W. S. Elden	Professor	3,500.00
S. B. Smith	Instructor	2,800.00

PHILOSOPHY

J. A. Leighton	Professor	5,000.00
A. R. Chandler	Assistant Professor	3,000.00
A. E. Avey	Assistant Professor	2,750.00
D. L. Evans	Instructor	1,833.33
O. L. Reiser	Assistant	1,000.00

POLITICAL SCIENCE

H. R. Spencer	Professor	4,250.00
F. W. Coker	Professor	4,000.00
W. J. Shepard	Professor	4,000.00
Robert T. Pollard	Assistant	500.00
John L. LaMonte	Student Assistant (Summer Quarter)	50.00

ANNUAL REPORT

197

ROMANCE LANGUAGES

Robert E. Rockwood	Assistant Professor.....	3,500.00
Olin H. Moore	Professor.....	4,000.00
George R. Havens	Professor.....	3,250.00
E. F. Hacker	Assistant Professor.....	3,000.00
Robert Foure	Assistant Professor.....	3,000.00
T. E. Hamilton	Assistant Professor.....	2,500.00
Bertha P. Arthur	Instructor.....	1,800.00
Florence Hier	Instructor.....	2,000.00
Helen Foure	Assistant.....	1,650.00
Earl C. Shively	Assistant.....	1,200.00
Flola Shepard	Assistant.....	1,575.00
W. S. Hendrix	Professor.....	4,000.00
Elisabeth Conrad	Assistant Professor.....	No salary
Santiago Gutierrez	Assistant Professor.....	3,250.00
G. Nelson Graham	Instructor.....	2,000.00
Raymond L. Grismer	Instructor.....	2,200.00
D. P. Rotunda	Instructor.....	2,200.00
Helen V. Terry	Instructor.....	1,500.00
Emily Schons	Instructor.....	2,000.00
W. A. Whatley	Instructor.....	2,500.00
Helen C. Barr	Assistant.....	1,950.00
W. C. Smyser	Instructor.....	1,200.00
Gertrude Walsh	Assistant.....	333.30

COLLEGE OF COMMERCE AND JOURNALISM

J. E. Hagerty	Dean.....	6,000.00
George W. Starr	Assistant.....	525.00

ACCOUNTING

G. W. Eckelberry	Professor.....	4,500.00
W. D. Wall	Lecturer.....	800.00
J. Lake Vesper	Assistant.....	1,320.00
H. K. Casterton	Assistant.....	1,655.00
M. M. Donaldson	Assistant.....	660.00
D. M. Shonting	Assistant.....	1,000.00
*Harold Huling	Instructor.....	1,650.00

BUSINESS ORGANIZATION

C. O. Ruggles	Professor.....	6,000.00
John A. Fisher	Professor.....	5,000.00
Henry E. Hoagland	Professor.....	5,000.00
Walter C. Weidler	Professor.....	4,000.00
Charles A. Dice	Assistant Professor.....	3,500.00
Montgomery E. Pike	Assistant Professor.....	3,000.00
J. A. Fitzgerald	Assistant Professor.....	3,750.00
T. N. Beckman	Instructor.....	1,800.00
H. H. Webster	Instructor.....	961.25
Ralph Richards	Assistant.....	1,500.00
Don Wiper	Assistant.....	348.32
R. C. Mason	Assistant.....	133.32
Cary W. Bowers	Assistant.....	600.00
Russell E. Lyons	Assistant.....	900.00
Robert M. Hunter	Assistant.....	900.00
E. W. Norris	Assistant.....	210.00
Mercedes DoBell	Reader.....	90.00
V. M. Bongham	Reader.....	50.00
Lawrence R. Woodward	Reader.....	50.00
William Warren	Reader.....	50.00

ECONOMICS

M. B. Hammond	Professor	6,000.00
H. G. Hayes	Professor	4,500.00
Henry F. Walradt	Assistant Professor	3,500.00
Felix E. Held	Assistant Professor	3,500.00
Frederick E. Croxton	Instructor	2,000.00
George D. Haskell	Instructor	2,000.00
Lawrence E. Clark	Assistant	1,835.00
L. E. Smart	Assistant	1,500.00
Virgil Willett	Assistant	1,000.00
C. W. Fink	Assistant	1,500.00
D. M. Shonting	Assistant	500.00
H. H. Webster	Assistant	498.75
M. H. Black	Reader	150.00
Robert E. Coody	Reader	150.00
Oliver B. Combs	Reader	150.00
L. E. Devo	Reader	150.00
Ivan C. Eppley	Reader	150.00
Garrett W. Hartley	Reader	150.00
George E. Harvey	Reader	150.00
David S. Prosser	Reader	150.00
Carl Vandervoort	Reader	150.00
W. N. Loucks	Reader	200.00
Edison L. Bowers	Reader	200.00
I. R. Zwick	Reader	120.00
J. J. Gerlach	Reader	

ECONOMIC AND SOCIAL GEOGRAPHY

C. C. Huntington	Professor	4,500.00
Eugene Van Cleef	Assistant Professor	3,500.00
F. I. Blanchard	Instructor (Summer Quarter)	400.00
P. G. Eckelberry	Assistant	1,300.00
D. J. Hoskins	Assistant	500.00
Stella Huntington	Reader	300.00
Clyde W. Bower	Reader	150.00
D. C. Power	Assistant	811.66
Karl D. Reyer	Assistant	450.00
*F. A. Carlson	Assistant Professor	1,800.00

JOURNALISM

Joseph S. Myers	Professor	5,000.00
Osman C. Hooper	Professor	4,000.00
Lester C. Getzloe	Assistant Professor	2,600.00
Paul C. Carty	Instructor	2,700.00
M. H. Hallett	Instructor	2,300.00
Albert P. Taylor	Instructor	2,184.00
Henry C. Segal	Reader	75.00
N. N. Luxon	Editor Lantern	500.00
A. A. Bowman	Business Manager Lantern	500.00
Charles H. Vaughn	Editor Lantern, Summer	75.00
John P. Dorsey	Business Manager Lantern, Summer	75.00

SOCIOLOGY

C. C. North	Professor	4,500.00
F. E. Lumley	Professor	4,000.00
Mary Louise Mark	Assistant Professor	2,625.00
Edwin L. Clarke	Assistant Professor	2,500.00
W. C. Mills	Lecturer	500.00
Walter M. West	Lecturer	1,000.00
Henry M. Scott	Assistant	1,500.00
W. J. Blackburn	Assistant	1,338.00

ANNUAL REPORT

199

Perry P. DeNune	Assistant	1,612.50
J. W. Hatcher	Assistant	1,000.00
Edna M. Haughton	Assistant	1,250.00
Floyd Van Keuren	Lecturer	700.00
Perry P. DeNune	Assistant (Summer Quarter)	222.50
Florence Eberhard	Lecturer	250.00
Sherman E. Cooper	Lecturer	200.00
Elizabeth Long	Lecturer	600.00
Clara G. Mark	Assistant	300.00
Peter C. Poss	Assistant	225.00

COLLEGE OF DENTISTRY

H. M. Semans	Dean and Professor	6,000.00
H. V. Cottrell	Professor	1,800.00
R. B. Wiltberger	Assistant Professor	1,000.00
C. H. Hebble	Assistant Professor	1,700.00
William C. Graham	Assistant Professor	1,300.00
Herbert S. Shumway	Instructor	1,300.00
Charles W. Strosnider	Instructor	1,300.00
Dick P. Snyder	Instructor	1,300.00
Edward W. Martindale	Instructor	900.00
Irwin A. Bottenhorn	Instructor	900.00
Frank C. Starr	Instructor	1,100.00
Ollie O. Mobberly	Superintendent Laboratories	2,400.00
Louis E. Reif	Instructor	1,000.00
Earl G. Jones	Instructor	1,000.00
Webster M. Baker	Instructor	900.00
Virgil H. Traxler	Student Assistant	200.00

COLLEGE OF EDUCATION

George F. Arps	Dean	6,000.00
*Clarence E. Erffmeyer	Secretary	450.00
*N. S. Maddox	Secretary	2,083.34

BUREAU OF EDUCATIONAL RESEARCH

B. R. Buckingham	Director	7,500.00
P. R. Stevenson	Research Associate	3,000.00
Margaret Doherty	Reference Assistant	2,400.00
Josephine MacLatchy	Editorial Assistant	2,250.00
*Grace Christy	Assistant to Director	1,422.22

FINE ARTS

Charles F. Kelley	Professor	4,500.00
Alice R. Robisson	Assistant Professor	2,650.00
Ralph S. Fanning	Assistant Professor	3,000.00
Alma Knauber	Instructor	1,800.00
Bruce W. Saville	Instructor	2,000.00
Helen Mackenzie	Instructor	1,800.00
Eloise Richardson	Assistant	750.00
E. W. Rannells	Assistant	750.00
Minna L. Volk	Instructor (Summer Quarter)	400.00

HISTORY OF EDUCATION

L. F. Anderson	Professor	4,500.00
R. H. Eckelberry	Graduate Assistant	1,000.00

INDUSTRIAL EDUCATION

E. L. Usry	Professor	4,800.00
Robert E. Smith	Instructor	2,650.00

THE OHIO STATE UNIVERSITY

MUSIC (SUMMER QUARTER)

Royal D. Hughes	Professor	700.00
Norma V. Owens	Instructor	300.00
Mildred Hinkel	Instructor	200.00

PHYSICAL EDUCATION (SUMMER QUARTER)

G. M. Trautman	Assistant Professor	400.00
Kathleen Crowley	Instructor	340.00
Dorothy Sumption	Instructor	200.00

PRINCIPLES OF EDUCATION

J. L. Clifton	Professor	3,900.00
R. D. Bennett	Assistant Professor	3,200.00
F. C. Landsittel	Assistant	1,000.00
B. H. Bode	Assistant Professor	3,000.00
N. S. Maddox	Professor	6,000.00
H. G. Hullfish	Assistant (Summer Quarter)	175.00
Nancy E. Sidwell	Graduate Assistant	500.00
George B. Garden	Graduate Assistant	500.00

PSYCHOLOGY

A. P. Weiss	Professor	4,500.00
H. E. Burt	Professor	4,000.00
S. L. Pressey	Assistant Professor	3,000.00
A. S. Rogers	Assistant Professor	2,500.00
Elizabeth Hatch	Instructor	2,200.00
Laura Chassell	Instructor	1,000.00
Marjory Bates	Instructor	1,500.00
R. D. Williams	Assistant Professor	3,000.00
Frances T. Halstead	Instructor	2,000.00
Luella C. Pressey	Instructor	2,000.00
H. H. Goddard	Professor	6,000.00
Paul Farnsworth	Instructor	2,000.00
O. R. Chambers	Assistant	1,000.00
Bertha Koch	Laboratory Assistant	900.00
Ellouise Robinson	Assistant	750.00
Margaret E. Guy	Assistant	500.00
K. C. Pratt	Assistant	500.00
Willie Stephens	Graduate Assistant	500.00
E. N. Henderson	Professor (Summer Quarter)	600.00
Paul Farnsworth	Graduate Assistant (Summer Quarter)	200.00
O. L. Reiser	Assistant	675.00
M. A. Durea	Assistant	750.00
Helen D. Ruhlen	Assistant	500.00
Samuel Renshaw	Instructor	700.00
Elizabeth B. Bigelow	Assistant	200.00
Albert L. Henderson	Graduate Assistant	100.00

SCHOOL ADMINISTRATION

C. C. McCracken	Professor	4,500.00
E. J. Ashbaugh	Professor	5,000.00
W. G. Reeder	Assistant Professor	2,625.00
Glen T. Howe	Graduate Assistant	500.00

SCHOOL ADMINISTRATION (SUMMER QUARTER)

J. L. Purdom	Professor	1,000.00
J. L. Stenquist	Professor	750.00
W. S. Dakin	Professor	500.00
W. G. Reeder	Assistant Professor	500.00
W. W. Cox	Instructor	300.00
Fred C. Slager	Graduate Assistant	200.00

ANNUAL REPORT

201

COLLEGE OF ENGINEERING

E. A. Hitchcock	Dean	6,000.00
Lenora Glasgow	Secretary to Dean	1,600.00

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Charles S. Chubb	Professor	4,800.00
F. H. Haskett	Instructor	2,750.00
W. C. Ronan	Assistant Professor	3,200.00
George Fraser	Assistant Professor	2,000.00
*Herbert Baumer	Professor	3,333.33
*P. H. Elleman	Assistant	1,895.83

ASTRONOMY

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E. S. Manson	Associate Professor	2,600.00
*R. A. Hoyt	Student Assistant	90.00
Clifford R. Crum	Student Assistant	180.00
John F. Dickinson	Student Assistant	90.00

CERAMICS

A. S. Watts	Professor	4,500.00
Carl B. Harrop	Assistant Professor	2,750.00
James T. Robson	Instructor	1,200.00
John Lysatt	Technician	900.00

CHEMISTRY

William L. Evans	Professor	5,500.00
James R. Withrow	Professor	4,500.00
Charles W. Foulk	Professor	4,000.00
C. E. Boord	Assistant Professor	3,500.00
Marion Hollingsworth	Assistant Professor	2,700.00
Edward Mack	Assistant Professor	3,250.00
Wesley G. France	Assistant Professor	2,750.00
Cloyd D. Looker	Assistant	1,600.00
Howard E. Fritz	Assistant	1,500.00
Clare S. Martin	Assistant	1,500.00
Joel B. Peterson	Assistant	1,500.00
Albert H. Vilbrandt	Assistant	1,500.00
A. I. Andrews	Assistant	1,000.00
Arthur T. Bawden	Assistant	1,000.00
Cole Coolidge	Assistant	1,000.00
Marion D. Coulter	Assistant	1,000.00
Henry W. Hass	Assistant	1,000.00
Robert J. Havighurst	Assistant	1,000.00
William S. Jones	Assistant	1,000.00
Walter H. Moran	Assistant	1,000.00
*Gerard G. Osterhof	Assistant	111.11
Lawrence E. Stout	Assistant	1,000.00
Thomas H. Swan	Assistant	1,000.00
George H. Vander Borgh	Assistant	1,000.00
*Preston Hoff	Assistant	944.44
George M. Strong	Assistant	500.00
Alpha J. Will	Assistant	500.00
Arthur M. Brant	Graduate Assistant	500.00
James F. Chalmers	Graduate Assistant	500.00
Albert M. Clifford	Graduate Assistant	500.00
George T. Cross	Graduate Assistant	500.00
Homer L. Cupples	Graduate Assistant	500.00
Theodore S. Eckert	Graduate Assistant	500.00
John M. Flikkema	Graduate Assistant	500.00
Robert S. Hanson	Graduate Assistant	500.00

Lucian F. Hunt	Graduate Assistant	500.00
George M. Karns	Graduate Assistant	500.00
John D. McBurney	Graduate Assistant	500.00
Alfred E. McGee	Graduate Assistant	500.00
William W. Mills	Graduate Assistant	500.00
Edward G. Meiter	Graduate Assistant	500.00
Raymond C. Rich	Graduate Assistant	500.00
John M. Ort	Graduate Assistant	500.00
Robert A. Osborn	Graduate Assistant	500.00
Charles S. Pease	Graduate Assistant	500.00
Andrew E. Roper	Graduate Assistant	500.00
Lloyd C. Swallen	Graduate Assistant	500.00
Donald S. Villars	Graduate Assistant	500.00
Helen L. Wikoff	Graduate Assistant	500.00
James H. Wilson	Graduate Assistant	500.00
Benjamin McKay	Graduate Assistant	500.00
Raymond E. Schaad	Graduate Assistant	444.44
H. J. Barrett	Graduate Assistant	375.00
John E. Fargus	Student Assistant	250.00
Amos E. Luckhaupt	Student Assistant	250.00
Reuben A. Eyestone	Student Assistant	250.00
Robert H. Foster	Student Assistant	250.00

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C. T. Morris	Professor	3,800.00
F. H. Eno	Professor	3,600.00
R. C. Sloane	Assistant Professor	3,000.00
J. R. Shank	Assistant Professor	3,000.00
J. C. Merrell	Instructor	2,000.00
C. H. Wall	Instructor	1,500.00
J. M. Montz	Instructor	1,500.00
L. L. Dickson	Assistant	650.00

ELECTRICAL ENGINEERING

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C. A. Wright	Professor	3,500.00
R. A. Brown	Assistant Professor	2,250.00
A. F. Puchstein	Assistant Professor	2,250.00
J. E. Shepardson	Assistant Professor	2,000.00
K. D. Price	Assistant	1,000.00
Robert Hughes	Assistant	1,800.00
Carl Linxweiler	Assistant	1,000.00
*Vernon M. Lucas	Radio Operator	360.00
*William Glakin	Helper	248.00
*L. W. Ganshow	Instructor	1,125.00
Edward Trott	Student Assistant	374.00
Weston A. Brown	Student Assistant	160.00
William M. Kellogg	Student Assistant	160.00
Vernard M. Lucas	Student Assistant	200.00
Allen J. Smith	Student Assistant	240.00
N. E. Tuura	Student Assistant	240.00

ENGINEERING DRAWING

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Robert Meiklejohn	Professor	3,200.00
O. E. Williams	Assistant Professor	3,000.00
W. D. Turnbull	Assistant Professor	3,000.00
C. L. Svensen	Assistant Professor	3,000.00
W. B. Field	Assistant Professor	2,500.00
Ralph Paffenbarger	Instructor	2,400.00

ANNUAL REPORT

203

Ralph W. Dunkle	Instructor	1,675.00
Floyd K. Martin	Assistant	1,100.00
Tecla F. Haldy	Assistant	1,250.00
Allen P. McManigal	Instructor	1,500.00
Thomas N. Finical	Instructor	1,500.00
Phillip J. Beatty	Instructor	1,500.00
Herbert W. Thomson	Instructor	1,500.00
Frances I. Rataiczak	Student Assistant	300.00
John Rannels	Student Assistant	300.00
Hoyt Sherman	Student Assistant	300.00
Gerald P. Seegar	Student Assistant	300.00
Howard E. Sutton	Student Assistant	266.64

INDUSTRIAL ARTS

W. A. Knight	Professor	3,000.00
C. M. Beem	Instructor	1,800.00
U. W. Denman	Instructor	1,700.00
J. A. Foust	Instructor	1,700.00
Rudolph Schneider	Instructor	1,800.00
P. L. Wright	Instructor	1,600.00
Harold Wright	Instructor	1,700.00
Ora L. Justice	Shop Assistant	1,260.00
Oscar D. Rickley	Assistant	1,600.00
Edward Janning	Assistant	1,500.00
Thomas Decker	Foundry Helper	960.00

MATHEMATICS

R. D. Bohannon	Professor	4,000.00
H. W. Kuhn	Professor	3,500.00
S. E. Rasor	Professor	3,250.00
G. W. McCoard	Professor	2,000.00
C. C. Morris	Professor	2,500.00
C. L. Arnold	Associate Professor	3,000.00
John B. Preston	Assistant Professor	1,800.00
Grace M. Bareis	Assistant Professor	2,000.00
Hortense Rickard	Instructor	2,000.00
James H. Weaver	Assistant Professor	2,500.00
Van B. Teach	Instructor	1,800.00
Vaughn B. Caris	Instructor	2,000.00
Margaret Jones	Instructor	1,800.00
Clarice Hobensack	Instructor	1,800.00
Harry Beatty	Assistant Professor	2,000.00
*Charles T. Bumer	Instructor	1,875.00
Minona E. Bauer	Graduate Assistant	500.00

MECHANICAL ENGINEERING

William T. Magruder	Professor	4,500.00
F. W. Marquis	Professor	3,750.00
C. A. Norman	Professor	3,600.00
Horace Judd	Professor	3,000.00
Aubrey I. Brown	Assistant Professor	2,750.00
Paul Bucher	Assistant Professor	2,400.00
Karl W. Stinson	Instructor	2,100.00
R. H. Wasson	Instructor	1,900.00
J. J. Davis	Machinist	1,520.00
R. L. Pratt	Stationary Engineer	1,520.00
George Richey	Laborer	900.00
H. M. Jacklin	Instructor	2,000.00
John Q. Harshman	Assistant	1,300.00
Samuel R. Beitler	Assistant	1,650.00

THE OHIO STATE UNIVERSITY

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Charles P. Roberts
George N. Moffat

Assistant 1,200.00
Instructor 1,500.00
Instructor 1,050.00

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E. F. Coddington
Percy W. Ott
Mervin F. Devine

Professor 4,250.00
Professor 4,000.00
Assistant Professor 2,650.00
Instructor (Spring Quarter) 500.00

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W. A. Mueller
J. O. Lord

Professor 4,250.00
Assistant Professor 2,500.00
Instructor 1,500.00

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H. E. Nold
H. D. Decker

Consulting Director 1,000.00
Professor 3,000.00
Instructor 1,500.00

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W. J. McCaughey
Rodney F. Stillwell

Professor 3,500.00
Student Assistant 270.00

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R. F. Earhart
Howard D. Minchin
Alpheus Smith
F. C. Blake
H. G. Heil
D. A. Woodbury
Alva W. Smith
John S. Ward
C. W. Jarvis
Fred J. Brooks
M. C. Davies
E. F. Lowry
J. B. Sparraw
John Rose
Tadashi Fujimoto
Dean Judd

Professor 4,500.00
Professor 3,500.00
Professor 3,000.00
Professor 4,000.00
Professor 3,750.00
Assistant Professor 2,600.00
Instructor 2,100.00
Assistant Professor 2,400.00
Instructor 1,700.00
Instructor 1,900.00
Assistant 1,700.00
Instructor 2,000.00
Instructor 2,100.00
Assistant Custodian 1,200.00
Assistant 900.00
Assistant 900.00
Graduate Assistant 500.00

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C. A. Burrett
R. C. Wolcott
A. E. Hinsdale
Judson A. Ferree
W. A. Humphrey
John W. Cogswell
Jessie Harrod

Dean 2,375.00
Professor 2,000.00
Professor 2,000.00
Professor 2,000.00
Professor 1,500.00
Professor 1,000.00
Superintendent of Hospital 1,000.00

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John J. Adams
George W. Rightmire
Alonzo H. Tuttle
Clarence D. Laylin
Lewis M. Simes

Dean 6,000.00
Professor 5,500.00
Professor 5,000.00
Professor 5,000.00
Professor 4,500.00

COLLEGE OF MEDICINE

E. F. McCampbell
Charles E. Findlay

Dean 6,000.00
Secretary to Dean 2,000.00

ANATOMY

F. L. Landacre	Professor	5,250.00
Edward C. Buck	Assistant Professor	3,000.00
Rollo C. Baker	Assistant Professor	2,750.00
R. A. Knouff	Assistant Professor	2,750.00
Clarence I. Britt	Assistant	1,500.00
Dorothy Searles	Assistant	1,200.00
Thomas Evans	Technician	1,100.00
Leolyn A. Gilbert	Student Assistant	300.00
John Dutro	Student Assistant	300.00
Lyle Leonard	Student Assistant	100.00
Carson Cross	Student Assistant	100.00

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Charles B. Morrey	Professor	4,000.00
William A. Starin	Professor (on leave)	1,150.00
Vera McCoy Masters	Assistant Professor	2,000.00
Fred Speer	Instructor	2,000.00
R. F. Jukes	Instructor	1,600.00
*R. A. Moore	Assistant	133.33
*Howard I. Lowry	Assistant	100.00
George W. Bond	Assistant	1,200.00
Robert A. Moore	Assistant (Summer Quarter)	120.00
Harold E. Lowry	Laboratory Assistant	500.00
*John G. McCrimmon	Assistant	1,066.66

UNIVERSITY HOSPITAL

*Ida G. Webb	Superintendent of Nurses	1,083.32
*Lucy V. Ailer	Superintendent of Nurses	1,312.50
*Helen Clarke	Dietitian	183.33
*Effie Peele	Nurse, Operating Room	770.00
*Margaret Allen	Day Supervisor	770.00
*Marian Wheeler	Night Supervisor	770.00
*James Anderson	Nurse, Children's Ward	1,050.00
*Goldie Ewing	Nurse, Maternity Ward	650.00
*Alice Taylor	Clerk	840.00
*Helen McCleary	Clerk	440.00
*John Graham	Janitor	405.00
*Paul H. Charlton	Resident Physician	540.00
*Ernest Long	Janitor	855.00
*Jessie Haney	Janitress	562.50
*Charlotte Thum	Janitress	562.50
*Elizabeth Rourke	Janitress	562.50
*Katherine Harris	Dietitian	600.00
*Oscar Raver	Janitor	429.00
*Lorraine K. Stephens	Bookkeeper	440.00
*Myrtle Van Rhoden	Night Supervisor	400.00
*Ruth Snowden	Assistant Superintendent of Nurses	345.00
*Nettie Thomas	Supervising Nurse	200.00
*Blanca S. Hambleton	Assistant Maternity Supervisor	150.00

MEDICINE

J. H. J. Upham	Professor	2,000.00
John D. Dunham	Assistant Professor	300.00
Halbert B. Blakey	Assistant Professor	200.00
Jacob J. Coons	Assistant Professor	300.00
Charles J. Shepard	Assistant Professor	300.00
Elmer G. Horton	Assistant Professor	500.00
S. A. Hatfield	Assistant Professor	3,750.00
W. H. Pritchard	Instructor	200.00
E. J. Gordon	Assistant Professor	2,400.00
J. W. Leist	Instructor	1,500.00

R. A. Ramsey	Instructor	400.00
J. W. Sheetz	Instructor	300.00
F. C. Wagenhals	Assistant Professor	500.00
S. D. Edelman	Assistant	300.00
E. F. Peinert	Assistant	200.00
H. A. Minthorn	Assistant	200.00
H. V. Weihrauch	Assistant	100.00
George O. Hoskins	Assistant	200.00
John Farson	Assistant	200.00
Link Murphy	Assistant	200.00

OBSTETRICS

Andrews Rogers	Professor	1,250.00
G. Wayne Brehm	Instructor	300.00
Walter Duffee	Instructor	600.00
Roy E. Krigbaum	Assistant	700.00
Herman Koerper	Instructor	300.00

OPHTHALMOLOGY AND OTO-LARYNGOLOGY

John Edwin Brown	Professor	300.00
Andrew Timberman	Professor	300.00
George C. Schaeffer	Assistant Professor	400.00
Hugh G. Beatty	Assistant Professor	400.00
Andrew W. Prout	Assistant Professor	400.00
John B. Alcorn	Instructor	400.00
T. Reese Williams	Assistant	400.00
Clarence B. Tanner	Assistant	400.00
Robert W. Nosker	Assistant	200.00
Russell G. Means	Assistant	200.00
Arthur M. Hauer	Assistant Professor	No salary

PATHOLOGY

Ernest Scott	Professor	4,250.00
Carl Spohr	Professor	3,500.00
L. H. Van Buskirk	Instructor	1,700.00
Phillip J. Reel	Instructor	1,700.00
Mary H. Oliver	Instructor	1,600.00
Edith Miller	Instructor	1,500.00
Mortimer Banks	Assistant	1,100.00
Clinton L. Bryant	Assistant	1,100.00

PHYSIOLOGY

Roy G. Hoskins	Professor	5,250.00
A. M. Bleile	Professor	3,750.00
Clayton McPeck	Assistant Professor	2,750.00
Raymond J. Seymour	Assistant Professor	2,900.00
E. P. Durrant	Instructor	2,100.00
Carl P. Effler	Technical Assistant	2,000.00
Paul H. Charlton	Assistant	1,000.00
R. R. Durant	Assistant	600.00
Elmer A. Assman	Assistant	600.00
F. N. Nagel	Student Assistant	100.00

PHYSIOLOGICAL CHEMISTRY, PHARMACOLOGY, AND MATERIA MEDICA

Clayton S. Smith	Professor	4,250.00
Harry C. Powelson	Assistant	1,000.00
Anson L. Brown	Assistant	1,000.00
Harry W. Hughes	Technician	875.00
J. M. Van Dyke	Student Assistant	150.00
Mildred Gardner	Student Assistant	100.00

PUBLIC HEALTH AND SANITATION

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SURGERY AND GYNECOLOGY

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Yeatman Wardlow	Professor	300.00
Fred Fletcher	Assistant Professor	300.00
Leslie L. Bigelow	Assistant Professor	2,250.00
Edwin A. Hamilton	Assistant Professor	1,000.00
A. M. Steinfeld	Assistant Professor	300.00
Hugh J. Means	Assistant Professor	900.00
John W. Means	Instructor	600.00
Luke V. Zartman	Instructor	700.00
Hugh A. Baldwin	Instructor	75.00
E. C. Ludwig	Instructor	300.00
H. O. Bratton	Instructor	300.00
W. N. Taylor	Instructor	300.00
Phillip E. Stiffey	Instructor	300.00
George H. Shawaker	Assistant	300.00
Milton Jones	Assistant	200.00
*Esther Haberthuer	Technician	280.00
Holway D. Farrar	Instructor	200.00
*Mabel Ensign	Technical Assistant	560.00
Wells Teachnor	Assistant	No Salary
B. R. Kirkendall	Assistant	No Salary
David B. Gilliam	Assistant	No Salary

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Clair A. Dye	Dean and Professor	4,500.00
Clarence M. Brown	Assistant Professor	2,750.00
William S. Stevens	Instructor	2,000.00
*Charles L. Williams	Instructor	1,312.50
Raymond J. Albert	Student Assistant	200.00
Nellis G. Christman	Student Assistant	200.00
William E. Keyser	Student Assistant	200.00
Foreman W. Slager	Student Assistant	200.00

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Oscar V. Brumley	Professor	5,000.00
Leonard W. Goss	Professor	5,000.00
James D. Grossman	Professor	3,000.00
James H. Snook	Professor	3,000.00
J. N. Shoemaker	Assistant Professor	2,700.00
Walter R. Hobbs	Assistant Professor	2,700.00
R. E. Rebrassier	Instructor	2,400.00
R. A. Hendershott	Instructor	1,600.00
Mabel E. Moran	Secretary to Dean	1,200.00
Fay G. Adams	Clerk	960.00
E. L. Clements	Technician	1,200.00
W. H. Walker	Groom	1,200.00
*A. W. Fisher	Groom	800.00
*Frank R. Smith	Groom	346.67

GRADUATE SCHOOL

William McPherson	Dean	6,000.00
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THE OHIO STATE UNIVERSITY

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William H. Charch	Fellow.....	500.00
Warren W. Coxe	Fellow.....	500.00
Erwin A. Esper	Fellow.....	500.00
Thome H. Fang	Fellow.....	500.00
Roy I. Grady	Fellow.....	500.00
Albert Hartzell	Fellow.....	500.00
William V. Houston	Fellow.....	500.00
Donald B. Anderson	Scholar.....	300.00
Raymond A. Dobbins	Scholar.....	300.00
Alden H. Emery	Scholar.....	300.00
Mary H. Fretts	Scholar.....	300.00
Rudolph H. Helle	Scholar.....	300.00
Robert M. King	Scholar.....	300.00
Claude R. Neiswander	Scholar.....	300.00
Diathea C. Scholl	Scholar.....	300.00
William C. Skelley	Scholar.....	300.00
Dwight H. Stevenson	Scholar.....	300.00
Waid W. Tuttle	Scholar.....	300.00

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Maude D. Jeffrey	Reference Librarian.....	2,400.00
Gertrude Kellicott	Accession Librarian.....	2,400.00
Bertha M. Schneider	Head Cataloger.....	2,400.00
*Donald Leidigh	Accession Assistant.....	375.00
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Dorothy I. Higgins	Cataloger.....	2,000.00
Alice D. Cruikshank	Cataloger.....	1,400.00
Harriet N. Townshend	Library Assistant.....	1,080.00
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Ethel M. Miller	Library Assistant.....	1,200.00
Rita Buxton	Library Assistant.....	1,185.00
Susan Marksbury	Library Assistant.....	1,400.00
Marie Hopkins	Library Assistant.....	960.00
Mary E. Bigger	Library Assistant.....	1,200.00
Helen K. Laughlin	Library Assistant.....	1,200.00
Milton O. Lee	Night Assistant.....	600.00
Mary R. Rinker	Library Assistant.....	985.00
W. C. George	Checkroom Attendant.....	1,400.00
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Miriam R. Beckes	Library Assistant.....	1,080.00
Adah P. Smith	Library Assistant.....	1,080.00
Ellen Michael	Library Assistant.....	990.00
Mary T. Beggs	Library Assistant.....	1,020.00
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*Margaret Sturm	Library Assistant.....	975.00
Adelaide Hibbard	Library Assistant.....	990.00
*Oliver Donnenwirth	Library Assistant.....	162.50
*Beatrice McKenzie	Library Assistant.....	120.00
*Hayes Yeager	Library Assistant.....	100.00
Frank K. Guthrie	Library Assistant.....	360.00
*Marjory Passmore	Library Assistant.....	60.00
*W. R. Janeway	Library Assistant.....	380.00
*Alice Taylor	Library Assistant.....	570.00
*Marion Ross	Library Assistant.....	450.00
*Kathryn Sharp	Library Assistant.....	480.00

ANNUAL REPORT

209

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*W. H. Rose	Library Assistant	270.00
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*J. B. Myers	Library Assistant	180.00
*Carl H. Troeger	Library Assistant	180.00
*Mrs. R. L. Watson	Library Assistant	240.00
*Helen Brown	Library Assistant	240.00
*Florence D. Reese	Library Assistant	90.00

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W. T. Conway	Assistant Professor	250.00
E. C. Hanford	Assistant Professor	250.00
Carlisle B. Cox	Assistant Professor	250.00
Paul H. Barry	Assistant Professor	250.00
Clell B. Perkins	Assistant Professor	250.00
Edward G. Herlihy	Assistant Professor	250.00
R. D. Delehanty	Assistant Professor	250.00
J. A. Code	Assistant Professor	250.00
J. C. Welch	Assistant Professor	250.00
L. A. Kunzиг	Assistant Professor	250.00
R. C. Birmingham	Assistant Professor	250.00
P. M. Ellis	Assistant Professor	250.00
G. E. Jacobs	Assistant Professor	250.00
H. W. Webbe	Assistant Professor	250.00
D. O'Keefe	Assistant Professor	250.00
Gustav Bruder	Band Leader	500.00

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L. W. St. John	Professor	5,000.00
J. H. Nichols	Professor	5,000.00
J. W. Wilce	Professor	2,500.00
F. R. Castleman	Professor	1,500.00
G. M. Trautman	Assistant Professor	1,000.00
Samuel H. Cobb	Assistant Professor	2,700.00
Glenn H. Alexander	Instructor	1,800.00
V. R. Billingsley	Secretary	1,800.00
Henry D. Taylor	Alumni Recorder	1,500.00
R. M. Greuninger	Student Assistant	450.00
Paul B. Norton	Student Assistant	320.00
Ethel Scofield	Assistant Professor	2,400.00
*Lydia Clark	Professor	2,250.00
*Gladys Palmer	Instructor	1,500.00
*Dorothy Sumption	Instructor	1,200.00
Clara R. Ranck	Instructor	1,800.00
Ada V. Wright	Medical Examiner	1,200.00
Mrs. Clarke Hunter*	Pianist	1,000.00
*Laura E. Fredo	Maid	180.00
*Emma Thomas	Maid	540.00
*Louise Ortman	Maid	540.00
Clare Schooler	Student Assistant	300.00

PRESIDENT'S OFFICE

Katherine A. Vogel	Executive Clerk	1,800.00
*Edith M. Auch	Auditor Student Organizations	1,425.00
*Marian Walden	Stenographer	300.00

*Maurine Taylor	Stenographer	100.00
*Margaret Morrison	Stenographer	360.00

BUSINESS MANAGER'S OFFICE

Carl E. Steeb	Secretary Board of Trustees and Business Manager	6,000.00
Arminie L. Shields	Chief Clerk	1,200.00
R. M. Royer	Purchasing Agent	3,300.00
*Edith Sands	Typist	353.08
Helena Sands	Typist	900.00
Rosanne Gilmore	Bookkeeper	960.00
*Mary E. Duffy	Stenographer	913.85
Charles A. Kuntz	Comptroller	3,000.00
Floris D. Hane	Cashier	1,380.00
Dorothy M. Lewis	Assistant Cashier	1,080.00
Mary Kraus	Auditor	1,800.00
Anna L. O'Rourke	Stenographer	1,080.00
*Harriet Needham	Bookkeeper	560.00
Florence Naile	Bookkeeper	1,500.00
Catherine Cottingham	Clerk	960.00
*Helen Myers	Clerk	888.00
*Mildred Cline	Clerk	150.00
*Kathleen Lortz	Bookkeeper	175.38
*Esther Cope	Stenographer	242.88
*Ruth E. Waters	Clerk	480.00
Hugh Hardy	Clerk	1,320.00
G. J. Hoesch	Clerk	1,200.00
Ernest Ford	Mail Carrier	1,200.00

REGISTRAR'S OFFICE

Edith D. Cockins	Registrar	3,600.00
Helen Clarke	Assistant Registrar	2,100.00
Esther Funk	Assistant to Registrar	1,260.00
Elizabeth Richards	Assistant to Registrar	1,080.00
*Margaret E. Kilgore	Assistant to Registrar	560.00
Bonnie Woodbury	Assistant to Registrar	1,300.00
Virginia Michel	Assistant to Registrar	1,200.00
Frances E. Dick	Assistant to Registrar	960.00
Ethyl Woodbury	Assistant to Registrar	1,600.00
*Esther Roberts	Assistant to Registrar	500.00
*Eva M. Coons	Assistant to Registrar	855.55
Clara Miller	Assistant to Registrar	1,800.00
*Anne McNaughten	Assistant to Registrar	720.00
*Margaret Bain	Assistant to Registrar	720.00
*Jean Kellenberger	Assistant to Registrar	720.00
*Frances Rannells	Assistant to Registrar	400.00
*Margaret Jerman	Assistant to Registrar	320.00
*Miriam Cherry	Assistant to Registrar	320.00
*Florence Shride	Assistant to Registrar	320.00

ENTRANCE BOARD

B. L. Stradley	Assistant Professor	3,000.00
Mary E. Morris	Clerk	1,500.00
*Helen F. Powell	Stenographer	560.00
*Bessie Plummer	Stenographer	800.00

DEAN OF WOMEN

Elisabeth Conrad	Dean of Women	3,500.00
Katharine Adams	Assistant Dean of Women	1,500.00
Beatrice Babb	Secretary	1,080.00

ANNUAL REPORT

211

STUDENT HEALTH SERVICE

H. S. Wingert	Director.....	3,750.00
E. Marguerite Kutz	Nurse.....	1,500.00
Maude M. Eckhardt	Clerk.....	960.00

STORES AND RECEIVING

Fred E. Jones	Director.....	2,750.00
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STENOGRAPHIC AND CLERICAL

Alice Moran	Stenographer.....	1,200.00
M. Helen Pugh	Stenographer.....	1,020.00
Annette Shugert	Stenographer.....	960.00
Mary Lahmering	Stenographer.....	960.00
Nora Peck	Stenographer.....	960.00
*Lillian Moor	Stenographer.....	560.00
Alice Gillam	Clerk.....	960.00
*Louise Pitts	Stenographer.....	320.00
Eleanor K. Fisher	Stenographer.....	960.00
*Dorothy Swan	Stenographer.....	640.00
*Loretta M. Guth	Stenographer.....	424.61
Eloise Terbrueggen	Stenographer.....	960.00
Luella Wright	Stenographer.....	960.00
Mabel Vesper	Stenographer.....	960.00
Helen L. Smith	Stenographer.....	960.00
Eunice Evans	Stenographer.....	960.00
LeEvelyn Gillam	Stenographer.....	960.00
*Hazel Monett	Stenographer.....	560.00
Mina Kennedy	Stenographer.....	960.00
Treva Siler	Stenographer.....	900.00
*Lillian Timmons	Stenographer.....	95.40
Marie Combs	Stenographer.....	960.00
Ina D. Shirk	Stenographer.....	960.00
*Gladys Everitt	Stenographer.....	104.64
*Mary E. Nangle	Stenographer.....	200.00
Martha Okey	Stenographer.....	960.00
Edna G. Hale	Stenographer.....	960.00
Anne G. Bierman	Stenographer.....	960.00
*Ruth Harrington	Stenographer.....	240.00
Alberta Williams	Stenographer.....	960.00
Helen Shacklett	Typist.....	900.00
Alice Maltby	Stenographer.....	900.00
Bessie M. Freet	Stenographer.....	900.00
Marie Hoffman	Stenographer.....	480.00
Cecelia Ryan	Stenographer.....	480.00
*Inez Biddle	Stenographer.....	80.00
Cordelia Whitehead	Stenographer.....	450.00
Margaret Rose	Stenographer.....	480.00
*Eulalia Chaney	Stenographer.....	112.50
Marian McComas	Stenographer.....	960.00
Dorothy Lyford	Stenographer.....	960.00
Wanda Rittenhouse	Stenographer.....	900.00
Lucille E. Braun	Stenographer.....	900.00
*Helen Mendenhall	Stenographer.....	787.50
*Louise N. Postle	Stenographer.....	867.69
*Olive M. Trout	Stenographer.....	840.00
*Roxanna Rader	Stenographer.....	763.08
*Arline Everitt	Stenographer.....	363.08
*Gladys L. Everitt	Stenographer.....	664.62
*Nellie J. Bair	Stenographer.....	640.00
*Frances M. Snider	Stenographer.....	535.39
*Margaret King	Stenographer.....	166.15

*Thelma C. Kelly	Stenographer	400.00
*Myrtle S. Goetz	Stenographer	80.00
*Ann E. Steiner	Stenographer	80.00
*Cora M. Buescher	Stenographer	157.33
*Jacqueline Ulmer	Stenographer	261.30
*Susan Borst	Stenographer	240.00
*Florence Fearing	Stenographer	98.46
*Eva M. Miller	Stenographer	160.00
*Annabelle Mitchell	Stenographer	128.00
*Frances E. Garden	Stenographer	200.00
*Mildred M. Dennis	Stenographer	129.23
*Mary Wheaton	Stenographer	50.00
*Barbara Faber	Stenographer	53.33
*Leroy H. Buckingham	Stenographer	75.00
*Charlotte Zahrend	Stenographer	60.00
*Christine Domenico	Stenographer	70.00
*Mrs. W. W. Coxie	Stenographer	70.00

PHYSICAL PLANT DIVISION

ENGINEER'S OFFICE

William C. McCracken	Superintendent Buildings and Grounds, Chief Engineer ..	4,000.00
Earl R. Cohee	Clerk	1,320.00
*Claire E. Elk	Stenographer	440.00
*Maurine Taylor	.....	117.33
*Marie Ullmer	Stenographer	258.42

LIGHT, HEAT, AND POWER

Thomas D. Banks	Superintendent Power Plant	3,600.00
John P. CoVan	Master Mechanic	2,400.00
W. H. Case	Assistant Chief Engineer	1,920.00
Fred Brewer	Engineer	1,800.00
W. D. Hicks	Engineer	1,800.00
R. M. Ronk	Engineer	1,800.00
*C. Ashenhurst	Fireman	467.31
S. Lowry	Fireman	1,350.00
*Walter Ray Allis	Fireman	183.75
*C. Woodford	Fireman	787.50
*James H. Gregory	Fireman	52.50
Richard Kelley	Fireman	1,125.00
*Henry Clay	Fireman	1,106.25
William Anderson	Craneman	1,800.00
I. C. Reasoner	Blacksmith	1,500.00
Charles Reasoner	Helper to Blacksmith	1,140.00
George E. Shepherd	Steamfitter	1,920.00
James Mack	Steamfitter	1,800.00
*Earl H. Myers	Steamfitter's Helper	706.73
George Dillahunt	Electrician	1,860.00
Earl Achey	Assistant Electrician	1,600.00
C. T. Fippin	Assistant Electrician	1,500.00
*Lawrence Mack	Laborer	665.36
B. A. LeBay	Boiler Repair Man	1,500.00
A. O. Kaiser	Auto Mechanic and Helper	1,680.00
*Elmer Crick	Ash Wheeler	840.00
Thomas Scott	Ash Wheeler	960.00
Robert Sams	Ash Wheeler	960.00
John Clark	Ash Wheeler	960.00
*J. A. Colvin	Ash Wheeler	920.00
*W. M. Gilbert	Ash Wheeler	240.00
*William Mollard	Crane Helper	840.00

ANNUAL REPORT

213

*George Franks	Fireman	173.14
*George Grover	Fireman	982.21
*W. H. Kear	Ash Wheeler.....	680.00
*Walter Eccard	Fireman	432.69
*F. D. Nye	Ash Wheeler.....	480.00
*Joe Dill	Fireman	399.93
*Frank Taylor	Laborer	172.07
*A. T. Nelson	Steamfitter's Helper	525.00
*Lawrence Mack	Fireman	518.30
*P. E. McCoy	Fireman	382.50
*Irwin Walker	.....	180.00

BETTERMENT OF BUILDINGS

John Kraner	Carpenter	1,920.00
E. I. Martin	Carpenter	1,740.00
Philo Felker	Carpenter	1,740.00
Charles Blesch	Carpenter	1,740.00
R. C. Kaiser	Plumber.....	2,400.00
*W. H. Beck	Plumber.....	420.00
Dennis Anderson	Plumber.....	1,800.00
E. Inscho	Plumber's Assistant	1,620.00
*James A. Huff	Plumber's Assistant.....	840.00
*H. E. Truxall	Painter	1,125.00
Max Lehman	Painter	1,365.00
James Brain	Painter.....	1,260.00
Walter Shott	Painter.....	1,300.00
H. R. Johnson	Tinner.....	1,600.00
Charles G. Kalb	Truck Driver.....	1,166.66
*F. Dersam	Laborer.....	791.34
*E. E. McDowell, Jr.	Laborer.....	83.33
*R. A. Bowers	Laborer.....	750.00
*Elwood Stephenson	Painter.....	210.00

ROADS AND GROUNDS

Earl Bilderback	Foreman of Campus	1,620.00
Frank Funk	Arborator.....	1,200.00
John Rhone	Teamster.....	1,080.00
J. Fredo	Laborer.....	1,080.00
L. Stewart	Laborer.....	1,080.00
J. Hobert	Laborer.....	1,080.00
J. Stainbrook	Laborer.....	1,080.00
C. W. O'Harra	Laborer.....	1,080.00
A. Chesbro	Truck Driver.....	1,020.00
*Robert Farrell	Laborer.....	1,080.00
Leo Moran	Laborer.....	405.32
*M. T. Barrett	.....	731.50

POLICE AND WATCHMEN

William North	Day Policeman.....	1,350.00
H. S. Brown	Night Policeman	1,260.00
C. F. Reasoner	Supervisor of Watchmen.....	1,200.00
H. B. Case	Night Watchman.....	1,200.00
Alphonso Case	Night Watchman.....	1,200.00
*T. P. Glidden	Night Watchman.....	400.00
*C. D. Case	Night Watchman.....	23.07
O. D. Conaway	Night Watchman.....	1,200.00
J. T. Daniels	Night Watchman (retired)	480.00
W. F. Mahaffey	Night Watchman (retired)	480.00
*D. B. Spain	.....	373.08
*John J. Cream	.....	423.33
*Charles C. Clayton	.....	800.00
*Mark T. Swain	.....	300.00

*Thomas M. Bortle	Night Watchman.....	650.00
*W. E. Bailey	Night Watchman.....	209.76
*H. M. Cole	Night Watchman.....	286.67

JANITORS

John O'Rourke	Inspector of Buildings and Janitors.....	1,500.00
C. M. Hicks	Repair and Handy Man	1,200.00
*William Mutchmore	Custodian Medical Buildings.....	900.00
Walter M. Penn	Janitor.....	1,140.00
W. M. Stahl	Janitor.....	1,140.00
William Daehler	Janitor.....	1,140.00
Harry Chantler	Janitor.....	1,140.00
John Tordiff	Janitor.....	1,140.00
A. D. Grayson	Janitor.....	1,140.00
S. A. Williams	Janitor.....	1,140.00
R. M. Moore	Janitor.....	1,140.00
George C. Denny	Janitor.....	1,140.00
Oliver Smith	Janitor.....	1,140.00
L. F. Jordan	Janitor.....	1,140.00
J. C. Ludlum	Janitor.....	1,140.00
W. Curry	Janitor.....	1,140.00
*William Pohle	Janitor.....	950.00
Dan Brock	Janitor.....	1,140.00
Robert Petrie	Janitor.....	1,140.00
Olaf Christensen	Janitor.....	1,140.00
J. R. Butler	Janitor.....	1,140.00
*Ernest Long	Janitor.....	285.00
L. S. Hitchcock	Janitor.....	1,140.00
C. M. Shelton	Janitor.....	1,140.00
*William Rickner	Janitor.....	90.00
*Forest Spencer	Janitor.....	1,096.15
*Frank McCarty	Janitor.....	570.00
John O. Kimbrough	Janitor.....	1,140.00
C. A. Hopkins	Janitor.....	1,140.00
Elmer E. Smith	Janitor.....	1,140.00
*J. E. Kimbrough	Janitor.....	902.50
G. R. Pettibone	Janitor.....	1,140.00
Elmer McDowell	Janitor.....	1,140.00
M. Murphy	Janitor.....	1,140.00
*Robert Hebron	Janitor.....	95.00
John M. Wallace	Janitor.....	1,140.00
Edward Watson	Janitor.....	1,140.00
W. W. Smith	Janitor.....	1,140.00
Floyd Grayem	Janitor.....	1,140.00
Richard Brandon	Janitor.....	1,080.00
M. N. Cook	Janitor.....	1,080.00
J. W. Brown	Janitor.....	1,080.00
*George Hooley	Janitor.....	630.00
James Merrill	Janitor.....	1,080.00
*E. J. Nutt	Janitor.....	1,065.00
C. A. Hopper	Janitor.....	1,080.00
Louis Trotter	Janitor.....	1,080.00
James Gormley	Janitor.....	1,080.00
*James Ragland	Janitor.....	900.00
Clara Derflinger	Janitress.....	780.00
Lou Cornett	Janitress.....	750.00
*Jessie Haney	Janitress.....	187.50
*Elizabeth Rourke	Janitress.....	187.50
*Charlotte Thum	Janitress.....	187.50
*Jennie Farrel	Janitress.....	256.00
Mary Powers	Matron Restroom.....	720.00
M. S. Harvey	Elevator Man.....	660.00

ANNUAL REPORT

215

T. C. Radford	1,140.00
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JANITORS (Continued)

*Palmer Washington	366.92
*Willis Abbott	1,030.38
*Michael Cooney	900.00
*Clarence Eaton	858.46
*George E. Whitmer	799.62
*Lot Calloway	786.46
*Cora Paulsell	625.00
*James E. Harrington	675.00
*Thomas M. Bortle	90.00
*Della Lee	Maid..... 506.43
*Daniel F. McManus	Janitor..... 90.00
*John Graham	Janitor..... 238.85
*George Wilson	Janitor..... 450.00
*J. B. Seelig	Janitor..... 90.00
*William Goff	Janitor..... 360.00
*D. S. Gordon	Janitor..... 270.00
*Robert Dunn	Janitor..... 237.50
*Harry Clemens	Janitor..... 180.00
*Guston Royster	Janitor..... 190.00

LAUNDRY

Myrtle Faught	Laundress..... 1,080.00
Bert Faught	Launderer..... 900.00
Dolly Gray	Laundress..... 750.00
*Edna Culbertson	Laundress..... 375.00
*Emma Munyan	Laundress..... 312.50
*Clara Williams	Laundress..... 437.50
*Grace Gray	Laundress..... 125.00
*Jennie Roberts	Laundress..... 250.00

UNIVERSITY ARCHITECT

J. N. Bradford	University Architect..... 3,700.00
H. F. Reichard	Chief Draftsman..... 3,000.00
C. F. Mayer, Jr.	Draftsman..... 2,600.00
Paul E. Crider	Draftsman..... 2,100.00
A. H. Mickey	Superintendent of Construction..... 2,600.00
Coletta Kelly	Clerk..... 1,500.00

UNIVERSITY CHEMIST

D. J. Demorest	University Chemist..... 500.00
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DENTAL CLINIC

Katharine L. Pugh	Stenographer..... 1,400.00
Allie F. Harness	Clerk..... 1,000.00
Sue Merrill	Janitress..... 600.00
*May Varner	Stenographer..... 110.77
*Jocelyn Gillam	Stenographer..... 400.00

UNIVERSITY PRESS

Sue K. Brown	Feeder and Binder..... 1,162.00
Charles H. Davis	Compositor..... 2,184.00
R. W. Hodgson	Compositor..... 2,288.00
Charles D. Kalb	Compositor..... 2,184.00
George Maggiore	Compositor..... 2,184.00
G. F. Rodocker	Pressman..... 2,080.00
W. R. Stephens	Compositor..... 2,184.00
William J. Munroe	Pressman..... 2,068.29
*Clara Baker	Bookkeeper..... 800.00
Clyde J. Hodgson	Apprentice..... 790.40
Charles W. Thompson	Forwarder..... 2,184.00
Clara B. Harding	Bindery Woman..... 1,300.00

THE OHIO STATE UNIVERSITY

*Gladys Kavanaugh	Stenographer	336.66
*Anna B. Logan	Bindery Woman	142.50

WAREHOUSE, STORES, AND RECEIVING

F. E. Jones	Director (part salary)	250.00
James Lawson	Checking Clerk	1,400.00
Blanche Sullivan	Clerk	1,400.00
Earl Conway	Stock Clerk	1,400.00
Mabel Clum	Clerk	1,080.00
Henrietta Lahmering	Clerk	960.00
Charles Pugh	Stock Clerk	970.00
*A. A. Hathaway	Janitor	855.00
*Oliver Schwartz	Truck Driver	243.33
J. R. Remy	Toolroom Keeper	1,140.00
D. R. Masters	Small Animal Keeper	1,140.00
*Lloyd Blackburn	Truck Driver	567.69
*Lester Feyen	Helper	270.00
*Floyd Hildebrandt	Laborer	170.00

LABORATORY SUPPLY STORE

Chester McClintock	Storekeeper	2,566.66
H. W. Miller	First Assistant	1,966.66
Clara Fleisher	Clerk	960.00
*Burdna Norviel	Clerk	775.96
H. L. Allison	Laborer	1,200.00
L. S. Gormley	Assistant	1,933.32
R. B. Leonard	Glass Blower	1,800.00
*Thaddeus P. Sieg	Pharmacist	233.32
Frank D. Brill	Pharmacist	1,899.98
*M. L. Babb	Pharmacist	1,538.46
*F. K. Westervelt	Laborer	886.92
*K. W. Cook	Assistant	700.00
*K. L. Allison	Laborer	160.00

AGRICULTURAL EDUCATION—SMITH-HUGHES BUDGET

W. F. Stewart	Professor	1,500.00
H. W. Nisonger	Assistant Professor	3,000.00
H. G. Kenestrick	Assistant Professor	2,400.00
W. F. Bruce	Instructor	2,600.00
A. C. Kennedy	Instructor	2,500.00
J. B. McClelland	Instructor	2,350.00
E. O. Bolender	Instructor	2,350.00
C. F. Christian	Instructor	2,350.00
Mary J. Hunter	Stenographer	960.00

HOME ECONOMICS

Maud G. Adams	Professor	1,800.00
Henrietta Gromme	Assistant Professor	2,500.00
Clara Bancroft	Instructor	2,000.00
Almeda Jones	Instructor	1,900.00
Hazel Huston	Instructor	1,900.00
Ida Patterson	Instructor	350.00
Marie Kuglen	Stenographer	1,080.00
*Jane Hinckley	Instructor	1,666.66

VOCATIONAL AND COMMERCIAL EDUCATION

D. J. MacDonald	Professor	4,400.00
*Sylvia Sicha	Assistant Professor	1,000.00
Helen Ramsdell	Instructor	2,500.00
L. A. Flagler	Assistant Professor	3,600.00
Mrs. H. R. Keller	Secretary	1,300.00
R. W. Jenkins	Instructor	2,500.00
J. D. Runkle	Assistant Professor	3,150.00
Robert E. Smith	Instructor	900.00

APPENDIX IV

THE WORK OF INSTRUCTORS—1922-1923

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
ACCOUNTING												
Elements of Accounting.....	401	5	28	401	5	260	401	5	130	401	5	150
Elements of Accounting.....	402	5	24	402	5	129	402	5	240	402	5	160
Principles of Accounting.....	601	5	28	601	5	98	601	5	42	601	5	38
Principles of Accounting.....	.....	.....	.....	.....	.....	.....	602	5	46	.....	.....	.....
Cost Accounting.....	.....	.....	.....	.....	.....	.....	603	3	42	604	3	38
Auditing.....	607-8	4	36	607	2	38	608	2	38	611	2	74
Income Tax Accounting.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Constructive Accounting.....	.....	.....	.....	612	4	68	.....	.....	.....	.....	.....	.....
Accounting Practice.....	.....	.....	.....	.....	.....	.....	613	4	66	614	4	66
Business Statements.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	616	3	58
Research.....	.....	.....	.....	801	3	7	802	3	7	803	3	7
Totals.....	.....	.....	116	.....	.....	600	.....	.....	611	.....	.....	591
AGRICULTURAL CHEMISTRY												
General Agricultural Chemistry.....	401	5	9	401	5	112	.....	.....	.....	401	5	83
Household Chemistry.....	403	5	5	.....	.....	.....	402	5	83	403	5	74
General Biological Chemistry.....	602	5	9	601	5	17	.....	.....	.....	.....	.....	.....
Food Analysis.....	.....	.....	.....	.....	.....	.....	602	5	7	603	5	5
Dairy Chemistry.....	.....	.....	.....	604	5	9	605	5	8	606	5	4
Chemistry of Nutrition.....	.....	.....	.....	.....	.....	.....	607	5	5	.....	.....	.....
Animal Nutrition.....	.....	.....	.....	.....	.....	.....	608	5	1	.....	.....	.....
Plant Chemistry.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	802	5	3
Special Problems.....	.....	.....	.....	.....	.....	.....	802	5	1	.....	.....	.....
Research.....	.....	.....	.....	.....	.....	.....	803	5	1	803	5	1
Seminary.....	.....	.....	.....	804	1	4	804	1	3	804	1	5
AGRICULTURAL EDUCATION												
The Teaching of Vocational Agriculture in Secondary Schools.....	401	5	14	401	5	14	401	5	13	.....	.....	.....
Observation Teaching of Vocational Agriculture in Secondary Schools.....	.....	.....	.....	402	5	6	402	5	11	402	5	6
Supervised Teaching of Vocational Agriculture.....	.....	.....	.....	403	5	13	403	5	14	403	5	7
Special Methods of Teaching Vocational Agriculture.....	601	5	21	601	5	2	601	5	7	601	5	15

THE WORK OF INSTRUCTORS—1922-1923—Continued

218

THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
AGRICULTURAL ENGINEERING												
Farm Mechanics and Machinery.....	.....	.....	.....	401	5	79	401	5	104	401	5	82
Plan Reading.....	.....	.....	.....	402	2½	11	402	2½	12	.....	.....	.....
Advanced Plan Reading.....	.....	.....	.....	403	2½	11	403	2½	6	.....	.....	.....
Farm Motors and Tractors.....	.....	.....	.....	.....	.....	.....	404	5	41	404	5	44
Farm Utilities.....	405	3	2	.....	.....	.....	405	3	4	.....	.....	.....
Household Mechanics.....	.....	.....	.....	406	5	60	406	5	11	.....	.....	.....
Special Problems.....	601	3 or 5	2	601	5	20	601	5	25	601	5	15
Farm Structures.....	602	5	7	602	5	6	.....	.....	.....	.....	.....	.....
Advanced Farm Power and Power Machinery	.....	.....	.....	603	3	16	.....	.....	.....	604	5	19
Farm Drainage.....	.....	.....	.....	604	5	9	.....	.....	.....	605	3	13
Advanced Field Machinery.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Farm Motors.....	.....	.....	.....	54	5	43	55	5	35	.....	.....	.....
Farm Engineering (Short Course).....	.....	.....	.....	.....	.....	.....	.....	5	27	.....	.....	.....
AMERICAN HISTORY												
History of the United States (1760-1840)....	401	5	46	401	5	298	401	5	173	401	5	172
History of the United States (1840-1921)....	402	5	34	402	5	163	402	5	292	402	5	141
General Survey of United States History (1763-1850)	403	5	26	403	5	37	.....	.....	.....	.....	.....	.....
General Survey of United States History (1850-1922) .....	.....	.....	.....	.....	.....	.....	404	5	28	.....	.....	.....
Political Parties in the United States.....	405	5	16	.....	.....	.....	405	5	13	.....	.....	.....
The Colonization of North America.....	.....	.....	.....	.....	.....	.....	406	5	6	.....	.....	.....
Struggle for the Control of North America....	.....	.....	.....	.....	.....	.....	.....	.....	.....	407	5	17
The Pioneer in American History.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	410	5	40
History of Canada.....	.....	.....	.....	411	5	13	.....	.....	.....	.....	.....	.....
Introduction to Historical Research.....	601	3	3	.....	.....	.....	601	3	17	.....	.....	.....
Constitutional History of United States to 1837	.....	.....	.....	.....	.....	.....	602	3	21	.....	.....	.....
Constitutional History of United States since 1837 .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	603	3	20
The Slavery Struggle in the United States....	.....	.....	.....	604	3	15	.....	.....	.....	.....	.....	.....
Reconstruction and its Results (1863-1920) .....	.....	.....	.....	.....	.....	.....	605	3	13	.....	.....	.....
Recent American History (1875-1898) .....	.....	.....	.....	608	5	39	.....	.....	.....	.....	.....	.....
Recent American History (1898-1922).....	609	5	22	.....	.....	.....	.....	.....	.....	.....	.....	.....
The Teaching of American History.....	610	3	25	610	3	17	.....	.....	.....	.....	.....	.....

The Influence of Racial Groups on the History of the United States.....	.....	.....	.....	.....	.....	.....	.....	.....	611	5	34
Special Problems in American Diplomacy.....	.....	.....	.....	810	3	2	.....	.....	.....	.....	.....
Special Problems in Constitutional History.....	.....	.....	.....	.....	.....	.....	.....	.....	808	3	3
Special Problems in Recent History of the South	809	3	2	.....	.....	.....	.....	.....	.....	.....	.....
Great American Historians.....	.....	.....	.....	.....	.....	.....	811	3	7	.....	.....

ANATOMY

Comparative Anatomy (Arts).....	.....	.....	.....	.....	.....	.....	402	5	4	.....	.....
Comparative Vertebrate Embryology.....	.....	.....	.....	403	5	8	404	5	10	.....	.....
Comparative Anatomy (Pre-dental).....	406	5	18	.....	.....	.....	406	5	57	.....	.....
Comparative Anatomy (Pre-dental).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	407	5
Elementary Neurology (Arts).....	.....	.....	.....	408	5	3	409	5	2	.....	42
Visceral Anatomy (dietetics).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	410	4
Microscopic Technique.....	.....	.....	.....	.....	.....	.....	411	5	3	.....	3
Histology (Veterinary).....	.....	.....	.....	.....	.....	.....	421	5	16	.....	.....
Embryology (Veterinary).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	422	5
Human Anatomy (Dental & Optics).....	.....	.....	.....	431	5	52	432	5	45	433	5
Histology (Dental & Optics).....	.....	.....	.....	434	3	30	435	3	30	.....	46
Histology & Embryology (Dental & Optics).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	436	4
Anatomy of the Eye (Optics).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	437	3
Seminary .....	.....	.....	.....	601	1	3	602	1	5	603	1
Comparative Neurology.....	.....	.....	.....	607	5	3	.....	.....	.....	.....	4
Cytology .....	.....	.....	.....	.....	.....	.....	611	5	2	612	5
Human Anatomy.....	.....	.....	.....	621	5	118	622	5	84	623	5
Histology (Medical).....	.....	.....	.....	624	5	125	.....	.....	.....	.....	94
Embryology (Medical).....	625	5	13	.....	.....	.....	625	5	89	.....	.....
Neurology (Medical).....	626	5	15	.....	.....	.....	.....	.....	.....	626	5
Topographical Anatomy.....	.....	.....	.....	627	5	84	.....	.....	.....	.....	77
Advanced Embryology.....	.....	.....	.....	.....	.....	.....	802	5	2	.....	.....
Nurse's Anatomy.....	.....	.....	.....	.....	.....	7	.....	.....	3	.....	10

University credit not given in this course.
The work given is equivalent to three credit hours in Autumn and Winter Quarters and four credit hours in Spring Quarter.

ANIMAL HUSBANDRY

Elementary Live Stock Judging.....	.....	.....	.....	401	5	125	401	5	57	401	5
Feeding Live Stock.....	402	5	10	402	5	48	402	5	57	.....	21
Breeds of Live Stock (Veterinary).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	403	5
Horse Production and Management.....	.....	.....	.....	.....	.....	.....	601	5	38	.....	10
Beef Cattle Production and Management.....	.....	.....	.....	602	5	46	.....	.....	.....	.....	.....
Swine Production and Management.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	603	5
Dairy Cattle Production and Management.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	604	5
Sheep Production and Management.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	605	5
Advanced Live Stock Judging.....	.....	.....	.....	606	5	28	.....	.....	.....	.....	40
Meats and Meat Products.....	.....	.....	.....	.....	.....	.....	607	5	20	.....	17
Live Stock Markets and Marketing.....	.....	.....	.....	608	5	30	.....	.....	.....	.....	.....
Breeding Live Stock.....	.....	.....	.....	.....	.....	.....	609	5	51	.....	.....

THE WORK OF INSTRUCTORS—1922-1923—Continued

220

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Special Problems.....	610	3-15	20	610	3-15	16	610	3-15	18
Research Work.....	801	3-15	3	801	3-15	2	801	3-15	1
ARCHITECTURE												
Photography.....	611	3	21	750	3	6	611	3	41
History of Architecture (Ancient).....	431	3	20	.....	.....	.....	.....	.....	.....
History of Architecture (Classic).....	432	3	17	.....	.....	.....
History of Architecture (Mediaeval).....	433	3	20
History of Architecture (Renaissance).....	434	3	29	.....	.....	.....	.....	.....	.....
History of Architecture (Modern).....	435	3	31	.....	.....	.....
Timber Framing.....	640	5	19	.....	.....	.....
Architectural Composition.....	403	3	52
Elements of Architecture.....	421	5	36	.....	.....	.....	.....	.....	.....
Ornament.....	729	5	9	.....	.....	.....
Thesis.....	718	5	18
Shades and Shadows.....	401	3	37	.....	.....	.....	.....	.....	.....
Perspective.....	402	3	26	.....	.....	.....
Design (Order Problems) 422.....	422	5	21	422	5	21	422	5	6
Design (Order Problems) 423.....	423	5	1	423	5	13	423	5	17
Design 624.....	624	5	5	624	5	1	624	5	10
Design 625.....	625	5	16	625	5	6	625	5	2
Design 626.....	626	8	4	626	8	9	626	8	1
Advanced Design 727.....	727	8	8	727	8	3	727	8	7
Advanced Design 728.....	728	8	1	728	8	6	728	8	3
Sanitation.....	737	3	11	.....	.....	.....
Sanitation.....	747	3	18	.....	.....	.....
Fire Prevention.....	748	2	14	.....	.....	.....
Masonry.....	641	5	16
Professional Practice.....	715	5	24
Masonry.....	736	5	13	.....	.....	.....	.....	.....	.....
ASTRONOMY												
General Astronomy.....	401	5	8	401	5	112	401	5	34	401	5	72
General Astronomy.....	402	5	4	402	5	89	402	5	22
Practical Astronomy.....	601	3	46	.....	.....	.....	.....	.....	.....
Geodesy and Least Squares.....	602	3	43	602	3	1

THE OHIO STATE UNIVERSITY

Introduction to Celestial Mechanics.....	605	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Advanced Astronomy.....	607	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Advanced Astronomy.....	.....	.....	.....	608	5	*1	.....	.....	.....	.....	.....
BACTERIOLOGY											
Pharmacy, Short Course.....	.....	.....	.....	.....	.....	.....	.....	.....	402	3	74
Veterinary Medicine.....	.....	.....	.....	431	5	14	.....	.....	.....	.....	.....
Veterinary Medicine.....	.....	.....	.....	.....	.....	.....	432	5	11	.....	.....
Dentistry.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	450	5
General.....	607	5	30	607	5	126	.....	.....	.....	607	5
Pathogenic.....	608	5	18	.....	.....	.....	608	5	36	.....	.....
Dairy.....	.....	.....	.....	.....	.....	.....	610	5	3	.....	.....
Water.....	.....	.....	.....	.....	.....	.....	614	2	1	.....	.....
Serum Therapy.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	617	5
Special Technic.....	.....	.....	.....	625	5	11	.....	.....	.....	.....	40
Special Technic.....	.....	.....	.....	.....	.....	.....	626	5	8	.....	.....
Special Problems.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	627	5
Medical.....	.....	.....	.....	641	5	67	.....	.....	.....	.....	2
Medical.....	.....	.....	.....	.....	.....	.....	642	3	69	.....	.....
Research.....	.....	.....	.....	801	5	3	.....	.....	.....	.....	.....
Research.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	803	5
Research.....	.....	.....	.....	.....	.....	.....	805	5	1	.....	1
Nurses.....	.....	.....	.....	.....	.....	.....	.....	2	5	.....	.....
Thesis.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
Totals.....	.....	.....	48	.....	.....	222	.....	.....	135	.....	182
BIBLIOGRAPHY											
The Library and the School.....	.....	.....	.....	501	1	6	502	1	6	503	1
Bibliography of Social Sciences: General ref- erence.....	.....	.....	.....	505	2	67	.....	.....	.....	505	2
Bibliography of Social Sciences: Government documents.....	.....	.....	.....	.....	.....	.....	506	2	14	.....	.....
BOTANY											
General Botany.....	401	5	32	401	5	422	401	5	124	401	5
General Botany.....	402	5	20	.....	.....	.....	402	5	378	402	5
Local Flora.....	405	5	5	.....	.....	.....	.....	.....	.....	.....	158
General Morphology of Thallophytes and Bryo- phytes.....	.....	.....	.....	.....	.....	.....	409	5	7	.....	122
Plant Physiology.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	416	5
General Plant Pathology.....	.....	.....	.....	419	5	36	.....	.....	.....	.....	19
Plant Microtechnic.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	421	5
Plant Ecology.....	601	5	11	601	5	12	.....	.....	.....	602	5
Principles of Taxonomy.....	.....	.....	.....	607	5	5	.....	.....	.....	.....	3
Principles of Taxonomy: Monocotyls.....	.....	.....	.....	.....	.....	.....	608	5	6	.....	8
Principles of Taxonomy: Dicotyls.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	609	5
Evolution of Plants.....	.....	.....	.....	.....	.....	.....	611	5	8	.....	5
Plant Microchemistry.....	.....	.....	.....	617	5	6	.....	.....	.....	.....	.....
Economic Botany.....	.....	.....	.....	619	5	3	.....	.....	.....	.....	.....
Methods in Plant Pathology.....	.....	.....	.....	651	5	5	.....	.....	.....	.....	.....

* In the Summer Quarter one man took three credit hours in Astronomy 607 and the other two men took five hours.

THE WORK OF INSTRUCTORS—1922-1923—Continued

222

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Mycology .....	.....	.....	.....	.....	.....	.....	653	5	11	.....	.....	.....
Diseases of Garden Crops.....	.....	.....	.....	.....	.....	.....	657	3	7	.....	.....	.....
Advanced Plant Genetics.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	670	5	3
Minor Investigations: Taxonomy.....	.....	.....	.....	701	5	2	701	3	1	.....	.....	.....
Minor Investigations: Morphology.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	702	5	3
Minor Investigations: Physiology and Ecology.....	703	5	5	703	5	4	703	5	1	703	5	1
Minor Investigations: Pathology and Mycology.....	.....	.....	.....	704	5	4	704	5	6	704	5	4
Minor Investigations: Economic Botany.....	.....	.....	.....	705	5	1	.....	.....	.....	.....	.....	.....
Research in Morphology and Cytology.....	.....	.....	.....	802	5-10	1	802	5-10	1	802	5-10	1
Research in Physiology and Ecology.....	803	5-10	1	803	5-10	3	803	5-10	5	803	5-10	2
Research in Mycology and Plant Pathology.....	.....	.....	.....	804	5-10	2	804	5-10	2	804	5-10	3
Plant Genetics.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	805	4	1
Research in Economic Botany.....	.....	.....	.....	.....	.....	.....	806	5-10	2	806	5-10	1
Botanical Seminary.....	.....	.....	.....	810	1	7	.....	.....	.....	810	1	.....
BUSINESS ORGANIZATION												
Value and Rate Problems of Railways and Public Utilities	748	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Traffic Management and Rate Marketing (752) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Life Insurance .....	.....	.....	.....	760	3	12	.....	.....	.....	.....	.....	.....
Fire and Marine Insurance.....	.....	.....	.....	.....	.....	.....	762	3	63	.....	.....	.....
Casualty and Miscellaneous Insurance.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	764	3	5
Ins. Agency, Organization and Methods (766) .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Research in Corporation Organizing and Finance .....	.....	.....	.....	801	1-3	5	802	1-3	5	.....	.....	.....
Science and Regulation.....	805	1-3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Public Utility and Rate Making and Management of Public Utilities.....	809	1-3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Insurance Problems.....	.....	.....	.....	.....	.....	.....	813	1-3	2	815	1-3	3
Research in Marketing.....	.....	.....	.....	817	1-3	1	818	1-3	3	819	1-3	8
Research in Banking.....	.....	.....	.....	.....	.....	.....	823	1-3	1	.....	.....	.....
Graduate Seminary in Business Organization.....	.....	.....	.....	831	2	2	832	1	1	.....	.....	.....
Research in Industrial Management.....	836	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Research in Industrial Management.....	837	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Production Organization and Management.....	.....	.....	.....	.....	.....	.....	687	3	24	.....	.....	.....
Office Organization and Management.....	.....	.....	.....	691	3	97	.....	.....	.....	.....	.....	.....

Marketing	700	5	176	700	5	50	.....	.....	.....
Marketing Problems .....	.....	.....	.....	702	3	72	.....	.....	.....
Wholesaling and Retailing .....	.....	.....	.....	.....	.....	.....	705	3	105
Salesmanship and Sales Management.....	712	3	61	712	3	66	712	3	21
Principles of Advertising.....	.....	.....	.....	716	3	76	716	3	16
Advertising Practice.....	.....	.....	.....	.....	.....	.....	717	3	41
Exporting and Importing.....	720	3	40	721	3	31	722	3	26
Railway and Public Utilities.....	740	3	14	.....	.....	.....	.....	.....	.....
Port and Terminal Problems, Water Transportation	744	3	15	.....	.....	.....	.....	.....	.....
Business Communications .....	.....	.....	.....	.....	.....	.....	604	3	137
Business Statistics .....	.....	.....	.....	614	3	73	614	3	.....
Industrial Statistics (615) .....	.....	.....	.....	620	1	203	.....	.....	.....
Public Regulation of Industry.....	.....	.....	.....	621	3	103	.....	.....	.....
Business Law-Contracts.....	.....	.....	.....	623	.....	160	.....	.....	.....
Business Law-Agency and Sales.....	.....	.....	.....	625	3	23	625	3	77
Business Law-Negotiable Instruments.....	.....	.....	.....	.....	.....	.....	627	.....	69
Business Law-Partnership and Corporations..	.....	.....	.....	.....	.....	.....	.....	.....	.....
Business Organization and Control.....	640	3	23	640	3	90	640	3	.....
Corporation Finance	650	5	14	650	5	40	650	5	139
Industrial Finance .....	.....	.....	.....	.....	.....	.....	652	.....	59
Road and Public Utility Finance.....	.....	.....	.....	656	3	40	.....	.....	.....
Investments .....	.....	.....	.....	.....	.....	.....	658	.....	64
Stock Exchange and Speculations.....	660	Quiz	36-24	.....	.....	.....	.....	.....	.....
Foreign Exchange .....	.....	.....	.....	665	Lect	18-8	.....	.....	.....
Bank Organization and Management.....	.....	.....	.....	.....	.....	.....	670	4	24
Industrial Organization and Management.....	681	3	74	682	2	19	680	5	35
Material Organization and Management.....	685	3	25	.....	.....	.....	.....	.....	.....
Employment Organization and Management..	.....	.....	.....	686	3	23	.....	.....	.....

CERAMIC ENGINEERING

Occurrence and Properties of Clay.....	.....	.....	.....	401	4	24	.....	.....	.....
Winning, Preparation, and Forming.....	.....	.....	.....	.....	.....	.....	405	4	22
Drying and Burning.....	.....	.....	.....	601	5	9	.....	.....	.....
Bodies, Glazes, and Colors.....	.....	.....	.....	605	4	8	605	4	1
Refractories and Furnaces.....	610	5	6	.....	.....	.....	610	5	8
Ceramic Calculations	615	5	8	.....	.....	.....	.....	.....	.....
Physical and Chemical Measurements of Clays Etc. ....	.....	.....	.....	620	5	8	.....	.....	.....
Laboratory Work in Ceramics.....	701	5	13	.....	.....	.....	.....	.....	.....
Laboratory Work in Ceramics.....	.....	.....	.....	702	5	13	.....	.....	.....
Laboratory Work in Ceramics.....	.....	.....	.....	.....	.....	.....	703	5	13
Ceramic Designing	705	5	12	.....	.....	.....	.....	.....	.....
Ceramic Designing .....	.....	.....	.....	706	5	12	.....	.....	.....
Ceramic Designing .....	.....	.....	.....	.....	.....	.....	707	5	12
Thesis	710	2	3	710	2	8	.....	.....	.....
Thesis	711	4	2	.....	.....	.....	711	4	8
Master's Thesis .....	.....	3	1	.....	3	2	.....	3	1
Doctor's Dissertation .....	.....	.....	1	.....	.....	1	.....	.....	1
Research Work .....	.....	.....	.....	.....	.....	.....	803	5	1

THE WORK OF INSTRUCTORS—1922-1923—Continued

224

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Testing of Clay With Reference to Industrial Adaptability	805	2	2
Porcelain for Electrical and Other Special Purposes	810	2	1
CHEMISTRY												
Elementary Chemistry.....	401	5	611	401	5	76	.....	.....	.....
Elementary Chemistry.....	402	5	543	402	5	97
Qualitative Analysis	403	5	213
General Chemistry	411	5	681	411	5	64	.....	.....	.....
General Chemistry	412	5	634	412	5	91
Qualitative Analysis	413	5	373
Quantitative Analysis.....	421	4	174	.....	.....	.....	.....	.....	.....
Quantitative Analysis.....	422	4	153	.....	.....	.....
Quantitative Analysis.....	423	4	63
Organic Chemistry	441	3	247	.....	.....	.....	.....	.....	.....
Organic Chemistry	442	3	178	.....	.....	.....
Organic Chemistry	444	2	240	.....	.....	.....	.....	.....	.....
Organic Chemistry	445	2	187	.....	.....	.....
Organic Chemistry	447	3	66	.....	.....	.....	.....	.....	.....
Organic Chemistry	448	3	58	.....	.....	.....
Organic Chemistry: Laboratory.....	449	3	53	.....	.....	.....	.....	.....	.....
Organic Chemistry: Laboratory.....	450	3	39	.....	.....	.....
Physical Chemistry.....	483	2	29
Chemical Engineering Practice Work.....	501	5	60	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chemical Engineering Thesis.....	503	2	29	.....	.....	.....
Chemical Engineering Thesis.....	504	5 to 6	33
Reading of Chemical Periodicals in German.....	581	3	21
Advanced Quantitative Analysis.....	621	4 or 5	18	.....	.....	.....	.....	.....	.....
General Quantitative Analysis.....	622	3	23	.....	.....	.....
Gas Analysis	623	4 or 5	0	.....	.....	.....	.....	.....	.....
Advanced Qualitative Analysis.....	625	4 or 5	17	.....	.....	.....	.....	.....	.....	624	4 or 5	5
Water Analysis.....	625	5	20
Qualitative Organic Analysis.....	641	3	28
Quantitative Organic Analysis.....	642	3	15
Advanced General Chemistry.....	662	3	10	.....	.....	.....

The Rare Elements.....	663	3	12	.....	.....	.....	672	3	17
Inorganic Preparations.....	672	3	11	.....	.....	.....	.....	.....	.....
Physical Chemistry.....	681	3	22	.....	.....	.....	.....	.....	.....
Physical Chemistry.....	.....	.....	.....	681	3	85	.....	.....	.....
Physical Chemistry.....	.....	.....	.....	.....	.....	682	3	81	.....
Physical Chemistry.....	.....	.....	.....	.....	.....	.....	.....	683	3
Physical Chemistry: Laboratory.....	691	2	19	.....	.....	.....	.....	.....	69
Physical Chemistry: Laboratory.....	.....	.....	.....	692	2	24	.....	.....	.....
Physical Chemistry: Laboratory.....	.....	.....	.....	.....	.....	693	2	13	.....
Physical Chemistry: Laboratory.....	.....	.....	.....	.....	.....	.....	.....	694	2
Physical Chemistry: Laboratory.....	.....	.....	.....	.....	.....	.....	.....	695	2
Colloid Chemistry.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Industrial Chemistry.....	.....	.....	.....	701	3	66	.....	.....	.....
Industrial Chemistry.....	.....	.....	.....	.....	.....	702	3	57	.....
Industrial Chemistry.....	.....	.....	.....	.....	.....	.....	.....	703	68
Inspection Trip to East.....	.....	.....	.....	.....	.....	.....	.....	705	5
Written Reports.....	.....	.....	.....	706	5	50	.....	.....	.....
Industrial Chemistry.....	.....	.....	.....	.....	.....	707	3	47	.....
Industrial Chemistry.....	.....	.....	.....	.....	.....	.....	.....	710	3
Applied Electrochemistry.....	.....	.....	.....	.....	.....	.....	.....	781	3
The Teaching of Chemistry.....	.....	.....	.....	.....	.....	782	1	33	10
Chemical Bibliography.....	.....	.....	.....	.....	.....	.....	.....	783	1
Chemical Biography.....	.....	.....	.....	821	3	5	.....	.....	.....
Seminary in Precise Chemical Measurements..	.....	.....	.....	.....	.....	822	3	4	.....
Seminary in Analytical Chemistry.....	.....	.....	.....	841	3	34	.....	.....	.....
Advanced Organic Chemistry.....	.....	.....	.....	.....	.....	842	3	17	.....
Advanced Organic Preparations: Laboratory..	844	3 or 5	.....	844	3 or 5	14	.....	.....	.....
Advanced Organic Preparations: Laboratory..	.....	.....	.....	.....	.....	845	3 or 5	8	.....
Advanced Organic Preparations: Laboratory..	.....	.....	.....	850	3	12	.....	.....	.....
Seminary in Organic Chemistry.....	.....	.....	.....	.....	.....	851	3	8	.....
Seminary in Organic Chemistry.....	.....	.....	.....	.....	.....	.....	.....	852	3
Seminary in Organic Chemistry.....	861	3	18	.....	.....	.....	.....	.....	12
Physical Chemistry: Laboratory.....	.....	.....	.....	861	3	15	.....	.....	.....
Physical Chemistry: Laboratory.....	.....	.....	.....	.....	.....	862	3	7	.....
Physical Chemistry: Laboratory.....	.....	.....	.....	.....	.....	.....	.....	863	3
Physical Chemistry: Laboratory.....	890	2	10	.....	.....	.....	.....	.....	8
Seminary in Physical Chemistry.....	.....	.....	.....	891	2	5	.....	.....	.....
Seminary in Physical Chemistry.....	.....	.....	.....	.....	.....	892	2	5	.....
Seminary in Physical Chemistry.....	.....	.....	.....	900	2 to 5	2	.....	.....	.....
Advanced Industrial Chemistry.....	.....	.....	.....	.....	.....	901	2 to 5	2	.....
Advanced Industrial Chemistry.....	.....	.....	.....	.....	.....	.....	.....	902	2 to 5
Advanced Industrial Chemistry.....	.....	.....	.....	905	2	16	.....	.....	1
Seminary in Industrial Chemistry.....	.....	.....	.....	.....	.....	906	2	14	.....
Seminary in Industrial Chemistry.....	.....	.....	.....	.....	.....	.....	.....	907	2
Seminary in Industrial Chemistry.....	.....	.....	.....	.....	.....	930	3	27	18
Historical Chemistry.....	950	5 to 15	27	950	5 to 15	36	950	5 to 15	24
Chemical Research.....	.....	.....	.....	.....	.....	.....	950	5 to 15	37
CIVIL ENGINEERING									
Land Surveying.....	.....	.....	.....	401	5	57	401	5	34
Railroad Surveying.....	.....	.....	.....	403	5	10	.....	.....	403
.....	.....	.....	.....	.....	.....	.....	.....	5	41

THE WORK OF INSTRUCTORS—1922-1923—Continued

226

THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Elementary Surveying	411	3	22	.....	.....	.....	411	3	69
Topographic Surveying	601	5	53	.....	.....	.....	.....	.....	.....
Sanitary Engineering	602	5	59	.....	.....	.....	.....	.....	.....
Concrete Design	701	5	35	.....	.....	.....	.....	.....	.....
Bridge Design	702	5	34	.....	.....	.....	.....	.....	.....
Thesis	706	1	36	707	2	36	708	5	33
Trusses	712	5	11	712	5	5	712	5	33
Concrete Design	713	5	16	.....	.....	.....	.....	.....	.....
Railway Engineering	730	3	13	731	3	7	.....	.....	.....
Municipal Engineering	736	3	7	.....	.....	.....	.....	.....	.....
Plane Surveying	402	5	44	402	5	30
Topographic Drawing	404	4	43	.....	.....	.....
Timber Construction	603	5	50	.....	.....	.....
Timber and Masonry	611	3	52	.....	.....	.....
Water Supply Engineering	703	5	30	.....	.....	.....
Masonry Construction	704	5	43	.....	.....	.....
Steel—Frame Buildings	714	5	18	.....	.....	.....
Advanced Bridges	734	3	19	.....	.....	.....
Highway Engineering	738	3	17	.....	.....	.....
Applied Descriptive Geometry	405	4	31
Stresses in Structures	604	5	28
Roads and Pavements	605	5	56
Cement and Concrete	606	3	51
Advanced Bridges	735	3	9
Highway Materials	739	3	8
Contracts and Specifications	732	3	20
Masonry Structures	705	5	33
Factory Building Construction	711	3	26	711	3	19
Summer Surveying Camp	407	6	39	.....	.....	.....	.....	.....	.....	.....	.....	.....
Summer Surveying Camp	607	6	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
DAIRYING												
Principles of Dairying	401	5	92	401	5	105	401	5	19
Farm Dairying	402	5	66	.....	.....	.....
Testing of Milk Products	403	5	8
City Milk Supply	404	5	5	.....	.....	.....	.....	.....	.....

Buttermaking				405	5	2	405	5	6	405	5	2
Dairy Practice	406	3-5	3									
Soft Cheese Making							407	3	2			
Hard Cheese Making							408	5	2			
Milk Condensing										409	3	6
Ice Cream Making										410	5	6
Dairy Mechanics				411	3	3						
City Milk Inspection							412	5	22	412	5	19
Advanced Dairying	601	3-5	6	601	3-5	5	601	3-5	3	601	3-5	7
Dairy Herd Management				603	3-5	1	603	3-5	2	603	3-5	1
Special Problems in Dairy Manufacturng Prac- tice	604	3-5	1				604	3-5	3	604	3-5	1
Advanced Dairying (Graduate)	801	5-10	1	801	5-10	2	801	5-10	3	801	5-10	3
Dairy Farm Management							58					
Special Dairy Short Course									21			

DENTISTRY

Anatomy				431	4	36	432	4	31	433	5	30
Chemistry				441	3	31	442	3	22			
Chemistry				444	2	31	445	2	22			
Drawing				414	2	27						
Prosthesis				401	4	24	402	4	22	403	3	22
Operative Dentistry							402	2	23	403	3	21
Physiology										604	6	24
Anatomy				434	3	16	435	3	18	436	4	18
Operative Dentistry				405	3	17	406	3	16			
Physiology				604	6	19	605	6	20			
Prosthesis				405	3	9	406	3	11	407	2	14
Prosthesis				421	2	18	422	2	18	423	2	17
Bacteriology										450	5	16
Physiological Chemistry										401	3	15
Prosthesis										419	2	0
Operative Dentistry				421	1	63	422	1	62	423	2	63
Operative Dentistry				417	3	61	418	3	61	419	1	65
Operative Dentistry				409	5	63	410	5	64	411	5	64
Prosthesis				409	3	60	410	3	61	411	3	60
Prosthesis				425	2	61	426	2	63	427	2	64
Physiology				427	3	56	428	3	59	429	3	59
Operative Dentistry										431	2	59
Pathology				450	3	60	451	3	60	452	2	66
Operative Dentistry				437	2	65	438	2	58	439	2	63
Operative Dentistry				441	1	65	442	1	62	443	1	62
Operative Dentistry				425	2	61	426	2	63	427	2	61
Operative Dentistry				445	2	63	446	2	60	447	2	61
Operative Dentistry				433	2	64	434	2	60	435	2	62
Operative Dentistry				413	4	61	414	4	61	415	4	59
Prosthesis				413	2	60	414	2	60	415	2	59
Prosthesis				429	2	63	430	2	60	431	2	60

THE WORK OF INSTRUCTORS—1922-1923—Continued

228

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
ECONOMIC AND SOCIAL GEOGRAPHY												
Principles of Geography.....	401	5	50	401	5	313	401	5	192	401	5	209
Economic Geography.....	403	5	23	403	5	74	403	5	197	403	5	124
History, Geography, and Commerce of the United States.....	601	3	14	601	3	19	.....	.....	.....	.....	.....	.....
Localization of Manufacturing Industry of the United States.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	603	4	83
Conservation of National Resources.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	604	2	76
Economic and Social Geography of Ohio.....	.....	.....	.....	.....	.....	.....	605	2	49	.....	.....	.....
Economic and Social Geography of Europe.....	.....	.....	.....	.....	.....	.....	621	3	126	.....	.....	.....
Political Geography of South America.....	.....	.....	.....	623	3	31	.....	.....	.....	.....	.....	.....
Caribbean Region and Panama Canal.....	.....	.....	.....	.....	.....	.....	624	3	30	.....	.....	.....
Economic Geography of the Far East.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	625	3	12
The Geography and History of Commerce.....	631	3	31	.....	.....	.....	.....	.....	.....	631	3	122
World Industry and Commerce.....	.....	.....	.....	633	3	15	withdrawn on account			of shortage of teachers		
Trade Centers and Trade Routes.....	.....	.....	.....	.....	.....	.....	634	3	76	.....	.....	.....
Field Work in Geography and Commerce.....	.....	.....	.....	.....	.....	.....	641	1-3	1	641	1-3	14
Research in Geography and Commerce 801-2-3	.....	.....	.....	.....	1-3	2	.....	1-3	2	.....	1-3	3
ECONOMICS												
Principles of Economics.....	401	5	102	401	5	450	401	5	253	401	5	192
Principles of Economics.....	402	5	35	402	5	133	402	5	266	402	5	180
Principles of Economics for Engineers.....	.....	.....	.....	.....	.....	.....	403	3	26	404	3	22
Principles and Problems of Economics.....	.....	.....	.....	601	3	12	602	3	9	603	3	4
Financial History of United States.....	.....	.....	.....	607	3	20	608	3	19	.....	.....	.....
Money and Banking.....	610	5	38	610	5	84	610	5	83	610	5	168
Corporation Economics.....	.....	.....	.....	616	5	29	.....	.....	.....	.....	.....	.....
Trusts and Monopolies.....	.....	.....	.....	.....	.....	.....	617	3	19	.....	.....	.....
Transportation Economics.....	618	5	41	618	5	30	618	5	24	618	5	55
Economic Statistics.....	.....	.....	.....	622	3	120	622	3	174	622	3	42
Principles of Insurance.....	.....	.....	.....	624	3	9	.....	.....	.....	.....	.....	.....
Public Finance.....	.....	.....	.....	631	3	62	.....	.....	.....	631	3	5
Public Finance.....	.....	.....	.....	.....	.....	.....	632	3	67	633	3	24
Industrial Relations.....	.....	.....	.....	637	3	53	.....	.....	.....	.....	.....	.....
Labor Legislation.....	.....	.....	.....	.....	.....	.....	638	3	53	.....	.....	.....
Social Insurance.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	639	3	40

THE OHIO STATE UNIVERSITY

Women in Industry	643	4	16	644	4	36	661	3	82
The Household	648	3	15	645	3	40	662	3	4
Economics of Public Service Industries.....	651	3	24	655	3	35	663	3	4
International Commercial Policies.....	657	3	27	661	3	8	666	3	3
Prices	657	3	27	661	3	8	662	3	3
Wages and Profits.....	657	3	27	661	3	8	662	3	3
Socialism	657	3	27	661	3	8	662	3	3
Economic History of the United States.....	657	3	27	661	3	8	662	3	3
*History of Economic Thought.....	657	3	27	661	3	8	662	3	3
Principles of Economics for College Teachers..	657	3	27	661	3	8	662	3	3
Modern Economic Theories.....	657	3	27	661	3	8	662	3	3
French and German Economists.....	657	3	27	661	3	8	662	3	3
Seminary in Economics	657	3	27	661	3	8	662	3	3
Research in Labor Problems and Legislation..	657	3	27	661	3	8	662	3	3
*Railroad Rates and Control.....	657	3	27	661	3	8	662	3	3
*Theories of Public Utility Rates in Europe and the United States.....	657	3	27	661	3	8	662	3	3
Research in Corporation Economics and Trust Problems	657	3	27	661	3	8	662	3	3
Research in Money and Banking.....	657	3	27	661	3	8	662	3	3
Total Registration	657	3	27	661	3	8	662	3	3
*Not given in 1922-1923.....	657	3	27	661	3	8	662	3	3

ELECTRICAL ENGINEERING

Direct Current Equipment	601	5	35	601	5	24	610	2	55
Alternating Current Circuits and Equipment..	605	5	33	605	5	33	615	2	54
Medium Frequency Currents.....	622	2	56	630	5	28	635	3	21
High Frequency Currents	622	2	56	640	2	62	702	3	53
Applications, Control and Problems.....	622	2	56	702	3	53	706	4	53
Experience in Practice.....	622	2	56	706	4	53	710	4	26
Electrical Engineering.....	622	2	56	710	4	26	715	4	21
Electrical Equipment	622	2	56	715	4	21	720	3 & 1	10
Electrical Engineering.....	622	2	56	720	3 & 1	10	722	& 0	4
Alternating Current Equipment	622	2	56	722	& 0	4	725	4	18
Alternating Current Laboratory.....	622	2	56	725	4	18	730	4	48
Electric Railways	622	2	56	730	4	48	735	3	20
Wire Telephony and Telegraphy.....	622	2	56	735	3	20	736	5	21
Electric Illumination	622	2	56	736	5	21	740	3	52
Electrical Illumination	622	2	56	740	3	52	745	4	53
Radio Telegraph and Telephony.....	622	2	56	745	4	53	755	90	16
Electrical Design	622	2	56	755	90	16	756	16	16
Thesis	622	2	56	756	16	16	770	3	9
Electrical Transmission and Distribution.....	622	2	56	770	3	9	775	4	37
Advanced Electrical Engineering Laboratory..	622	2	56	775	4	37	776	4	28
Inspection Trip to the West.....	622	2	56	776	4	28	776	4	28
Reading Course	622	2	56	776	4	28	776	4	28
The Application of Hyperbolic Functions to Electrical Engineering Problems.....	622	2	56	776	4	28	776	4	28
Electrical Engineering	622	2	56	776	4	28	776	4	28
Electrical Engineering	622	2	56	776	4	28	776	4	28

THE WORK OF INSTRUCTORS—1922-1923—Continued

230

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
ENGINEERING DRAWING												
Elementary Mechanical Drawing				401	4	375	401	4	42	402	4	47
Mechanical Drawing							402	4	351	403	4	292
Descriptive Geometry	403	4	16									
Descriptive Geometry (Transition Course)....				403a	3	306						
Mechanical Drawing (Architecture).....				411	4	14						
Engineering Drawing (Architecture).....							412	4	12			
Descriptive Geometry (Architecture).....				413	4	16				413	4	26
Mechanical Drawing (Dent).....				414	2	27						
Mechanical Drawing (Ap. Opt.).....							418	3	7			
Graphic Processes (Ap. Opt.).....										419	4	10
Machine Drawing										421	3	47
Descriptive Geometry and Machine Drawing...							421a	3	54			
Machine Drawing				422	3	60	422	3	92			
Technical Drawing	426	3	2	426	3	27				426	3	27
The Teaching of Mechanical Drawing.....				431	3	3						
The Teaching of Mechanical Drawing.....							432	3	3			
Drawing for Manual Arts Teachers.....	435	5	4									
Projection Drawing (Home Economics).....										437	2	64
ENGLISH												
Paragraph Writing	401	5	70	401	5	855	401	5	347	401	5	411
Theme Writing	405	5	29	405	5	78	405	5	126	405	5	50
Advanced Composition				407	5	43				407	5	66
English Composition				410	3	420	411	3	371	412	3	288
Advanced English for Engineers.....				419	3	45	419	3	53	419	3	98
The English Language							427	5	71			
The English Bible										429	5	142
Introduction to American Literature.....	433	5	72	433	5	180	433	5	260	433	5	313
Nineteenth Century Poetry				441	5	180	441	5	147	441	5	262
Nineteenth Century Poetry	442	5	34	442	5	99	442	5	142	442	5	119
Nineteenth Century Prose	446	5	68	446	5	76	446	5	94	446	5	218
Eighteenth Century Poetry and Prose.....	636	5	48	636	5	31						
Literature and Composition.....							643	5	33			
Old English												
Chaucer and His Principal Contemporaries and				651	3	24						

THE WORK OF INSTRUCTORS—1922-1923—Continued

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Expansion of Europe Through the Eighteenth Century .....	.....	.....	.....	601	3	19	.....	.....	.....	.....	.....	.....
Expansion of Europe from the Eighteenth Century to the Present.....	.....	.....	.....	.....	.....	.....	602	3	32	.....	.....	.....
Constitutional History of England to 1485 A. D. ....	.....	.....	.....	604	5	9	.....	.....	.....	.....	.....	.....
Constitutional History of England from 1485 A. D. to the Present.....	.....	.....	.....	.....	.....	.....	605	5	14	606	5	11
Hellenic Civilization.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Age of the Renaissance from 1250 to 1527 A. D.	608	3	1	608	3	15	.....	.....	.....	.....	.....	.....
Period of the Reformation.....	.....	.....	.....	.....	.....	.....	609	3	9	.....	.....	.....
Ancient Christianity .....	.....	.....	.....	611	5	10	.....	.....	.....	.....	.....	.....
Medieval Christianity .....	.....	.....	.....	.....	.....	.....	612	5	5	.....	.....	.....
The Near East: The European Powers vs. the Turks .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	615	3	31
Medieval Civilization .....	.....	.....	.....	621	5	6	.....	.....	.....	.....	.....	.....
England in the Nineteenth Century to 1867..	.....	.....	.....	627	3	14	.....	.....	.....	.....	.....	.....
Recent History of England Since 1867.....	.....	.....	.....	.....	.....	.....	628	3	9	.....	.....	.....
The French Revolution and Napoleon.....	631	5	31	.....	.....	.....	.....	.....	.....	631	5	16
The Great Historians.....	.....	.....	.....	645	3	4	.....	.....	.....	.....	.....	.....
Introduction to Historical Method.....	.....	.....	.....	.....	.....	.....	646	3	3	.....	.....	.....
The Teaching of European History.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	647	3	17
Seminary in European History: Problem and Thesis Course .....	.....	.....	.....	802	2-5	7	802	2-5	8	802	2-5	8
FARM CROPS												
Field Crop Production.....	401	5	16	401	5	46	.....	.....	.....	401	5	60
Cereal Crops .....	.....	.....	.....	.....	.....	.....	402	5	10	.....	.....	.....
Forage Crops .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	403	5	10
Special Crops .....	.....	.....	.....	601	3	0	.....	.....	.....	.....	.....	.....
Plant Breeding .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	602	5	0
Crop Experimentation	603	3	0	.....	.....	.....	.....	.....	.....	603	3	5
Minor Investigations	604	3-5	5	.....	.....	.....	604	3-5	2	604	3-5	3
Research	801	5-10	2	801	5-10	2	801	5-10	2	801	5-10	2
Seminary .....	.....	.....	.....	802	1	3	802	1	3	802	1	2

Winter Courses

Cereal Crops (4 weeks).....	.....	.....	.....	.....	.....	.....	.....	56	.....	.....	.....
Forage Crops (4 weeks).....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....

Three-year Course

Crop Production	51	.....	.....	51	.....	41	.....	.....	.....	.....	.....
Crop Production	52	.....	.....	.....	.....	.....	52	.....	41	.....	.....

FINE ARTS

Elementary Freehand Drawing.....	421	5	15	421	5	36	421	5	19	421	5	31
Freehand Drawing and Design (Engineers) ..	.....	.....	.....	.....	.....	.....	422	5	23	.....	.....	.....
Advanced Freehand Drawing.....	423	5	1	423	5	15	423	5	18	423	5	9
Drawing from Life.....	.....	.....	.....	424	5	10	424	5	4	424	5	10
Advanced Life Drawing.....	.....	.....	.....	425	5	4	425	5	1	425	5	2
Drawing from Life—Special.....	.....	.....	.....	425S	5	1	425S	5	1	425S	5	1
Elements of Art.....	.....	.....	.....	426	5	56	426	5	56	426	5	45
Elementary Design	431	5	6	431	5	5	.....	.....	.....	431	5	15
Specialized Design .....	.....	.....	.....	432	5	4	.....	.....	.....	.....	.....	.....
Commercial Design .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	433	5	2
Thesis Design .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	434	5	3
Illustrative Drawing .....	.....	.....	.....	.....	.....	.....	435	5	25	.....	.....	.....
Costume Design	436	3	26	436	3	26	436	3	21	436	3	32
Water Color Painting.....	.....	.....	.....	441	5	14	.....	.....	.....	441	5	12
Oil Painting .....	.....	.....	.....	442	5	3	.....	.....	.....	442	5	2
Advanced Oil Painting.....	.....	.....	.....	.....	.....	.....	443	5	3	443	5	3
Oil Painting—Special.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	442S	3	1
History of Classic Art.....	.....	.....	.....	451	5	9	.....	.....	.....	.....	.....	.....
History of Mediaeval Art.....	.....	.....	.....	.....	.....	.....	452	5	6	.....	.....	.....
History of Renaissance Art.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	453	5	12
Modern Painting and Sculpture.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	454	5	40
History of Minor Arts.....	.....	.....	.....	.....	.....	.....	455	5	8	.....	.....	.....
Modelling .....	.....	.....	.....	461	5	9	461	5	7	461	5	8
Advanced Modelling .....	.....	.....	.....	.....	.....	.....	462	5	5	462	5	2
Theory and Practice of Teaching Art.....	.....	.....	.....	471	5	6	.....	.....	.....	.....	.....	.....
Theory and Practice of Teaching Art.....	472	3	21	.....	.....	.....	.....	.....	.....	.....	.....	.....
Appreciation of Art.....	.....	.....	.....	475	1	74	475	1	72	475	1	104
History of Oriental Art.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Proseminary .....	.....	.....	.....	657	5	3	.....	.....	.....	.....	.....	.....

GEOLOGY

401 General Geology I.....	401	5	26	401	5	201	401	5	111	.....	.....	.....
402 General Geology II.....	.....	.....	.....	.....	.....	.....	402	5	164	402	5	79
403 Physiography of the United States.....	.....	.....	.....	403	5	28	.....	.....	.....	.....	.....	.....
404 Glacial Geology .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	404	5	26
405 Stratigraphic Geology of Ohio.....	.....	.....	.....	405	5	4	.....	.....	.....	.....	.....	.....
406 Structural and Dynamic Geology.....	.....	.....	.....	.....	.....	.....	406	5	9	.....	.....	.....
407 Historical Geology .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	407	5	8
408 Introductory Paleontology I.....	.....	.....	.....	408	3	10	.....	.....	.....	.....	.....	.....

THE WORK OF INSTRUCTORS—1922-1923—Continued

234

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
409 Introductory Paleontology II.....	.....	.....	.....	.....	.....	.....	409	3	10	.....	.....	.....
410 Introductory Paleontology III.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	410	3	10
420 Meteorology and Climatology.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	420	5	13
421 Principles of Geography.....	.....	.....	.....	421	5	10	.....	.....	.....	.....	.....	.....
422 Physical Geography of North America....	.....	.....	.....	.....	.....	.....	422	5	9	.....	.....	.....
424 Physical Geography of Asia.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	424	5	5
430 Physical Geology (Agriculture).....	.....	.....	.....	430	5	61	430	5	15	430	5	71
435 Physical Geology (Ceramic and Civil Engineering).....	.....	.....	.....	.....	.....	.....	435	5	55	.....	.....	.....
436 Physical Geology (Mining and Metallurgical Engineering).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	436	5	19
602 Advanced Paleontology II.....	.....	.....	.....	.....	.....	.....	602	5	1	.....	.....	.....
604 Advanced Physiography.....	.....	.....	.....	.....	.....	.....	604	5	10	.....	.....	.....
605 Economic Geology I.....	.....	.....	.....	605	3	19	.....	.....	.....	.....	.....	.....
606 Economic Geology II.....	606	3	7	.....	.....	.....	606	3	10	.....	.....	.....
607 Economic Geology III.....	607	3	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
611 Areal Geology.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	611	5	4
612 Special Problems.....	612	10	5	612	5	1	612	3	3	612	3	3
806 Research Work III.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	806	5	1
GERMAN												
Elementary German.....	401	5	14	401	5	302	401	5	34	401	5	72
Elementary German.....	402	5	10	402	5	40	402	5	177	402	5	32
Intermediate German.....	403	5	7	403	5	44	403	5	32	403	5	108
Easy Classical Reading.....	.....	.....	.....	404	5	18	.....	.....	.....	404	5	32
Science Reading.....	.....	.....	.....	.....	.....	.....	406	5	29	.....	.....	.....
Modern Drama.....	441	5	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Modern Novels.....	.....	.....	.....	431	5	7	.....	.....	.....	.....	.....	.....
Schiller.....	.....	.....	.....	.....	.....	.....	421	5	9	.....	.....	.....
Goethe.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	411	5	14
Goethe's Faust.....	.....	.....	.....	612	3	5	.....	.....	.....	.....	.....	.....
Hauptmann.....	.....	.....	.....	.....	.....	.....	641	3	4	.....	.....	.....
Heines.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	631	3	4
Introduction to German Philosophy.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	675	3	1
Minor Investigations.....	.....	.....	.....	695	3	3	695	3	2	.....	.....	.....

GREEK

Elementary Greek			401	5	19							
Elementary Greek						402	5	12				
Plato			403	5	5				403	5	7	
Homer						404	5	4				
Reading and Lectures									601	5	4	
Greek Art			650	3	5							
Greek Art						651	3	15				
Greek Art									652	3	45	
Principles Historical Study of Language									701	3	11	

HISTORY OF EDUCATION

History of Elementary Education	401	5		401	5	36						
History of Pre-Renaissance Education	403	3	40						403	3	22	
History of Modern Education I	404	3	64	404	3	146	404	3	91	404	3	82
History of Modern Education II	405	3	64				405	3	162	405	3	93
Educational Classics I				601	2	12				601	2	6
Educational Classics II							602	2	11			
Comparative Education I				603	2	6						
Comparative Education II	604	2	22				604	2	11			
History of Education in the United States I ..							605	2	10			
History of Education in the United States II ..										606	2	16
History of the American High School			28	608	2	14						
Present Day Problems in Education	608	2	35							609	2	27
Seminary in the History of Education	609	2		801	2	4						

HOME ECONOMICS

Textiles and Clothing				401	5	107	401	5	43			
Textiles and Clothing							402	5	60	402	5	67
Dress	403	5	20	403	5	20	403	5	18	403	5	34
Foods				411	5	87				411	5	30
Foods							412	5	78	412	5	5
Advanced Foods				413	5	11				413	5	45
Advanced Dress							501	5	13	501	5	6
Millinery	502	3	21				502	3	15			
Sanitation							511	3	36	511	3	30
House Furnishing				512	5	11	512	5	16	512	5	21
Child Care										521	5	63
Nutrition				611	5	25	611	5	30			
Advanced Nutrition										612	5	15
Household Management				617	5	22	617	5	25	617	5	18
Special Problems				625	3-15	5	625	3-15	7	625	3-15	6
Institutional Management				631	5	7	631	5	9			
Institutional Management							632	5	5	632	5	8
School Lunch Management	633	3	13									
Home Economics Teaching	641	5	11	641	5	31				641	5	8
Supervised Home Economic Teaching				642	5	5				642	5	32

THE WORK OF INSTRUCTORS—1922-1923—Continued

236

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
HORTICULTURE												
Principles of Horticulture.....	401	5	27	.....	.....	.....	.....	.....	.....	.....	.....	.....
Travel Course	480	10	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
Experimental Horticulture	602	3	12	602	3	2	.....	.....	.....	.....	.....	.....
Systematic Pomology.....	604	5	4	.....	.....	.....	.....	.....	.....
Research	801	5-10	2	.....	.....	.....	.....	.....	.....
Principles of Horticulture.....	401	5	62	.....	.....	.....	.....	.....	.....
Principles of Horticulture.....	53	4	39	.....	.....	.....	.....	.....	.....
Pomology	59	4	3	.....	.....	.....	.....	.....	.....
Horticultural Products	423	3	6	.....	.....	.....	.....	.....	.....
Systematic Vegetable Gardening.....	621	5	1	.....	.....	.....	.....	.....	.....
Horticultural Plant Breeding.....	601	3	4	.....	.....	.....	.....	.....	.....
Commercial Floriculture	442	5	7	.....	.....	.....	.....	.....	.....
Garden Flowers	444	5	18	.....	.....	.....	.....	.....	.....
Minor Investigations	643	3	5	.....	.....	.....	.....	.....	.....
Landscape Design	464	3	5	.....	.....	.....	.....	.....	.....
Elementary Plant Materials.....	468	3	11	.....	.....	.....	.....	.....	.....
Plant Materials	471	3	3	.....	.....	.....	.....	.....	.....
Civic Design	476	3	16	.....	.....	.....	.....	.....	.....
Farm Woodlot	451	5	3	.....	.....	.....	.....	.....	.....
Principles of Forestry	455	3	2	.....	.....	.....	.....	.....	.....
Experimental Horticulture	603	3	1	.....	.....	.....
Literature of Horticulture	605	5	10	.....	.....	.....
Farm Horticulture	405	5	122	.....	.....	.....
Pomology	403	5	49	.....	.....	.....
Amateur Landscape Gardening	461	3	33	.....	.....	.....
Landscape Design	462	5	16	.....	.....	.....
Landscape Design	465	3	7	.....	.....	.....
Elementary Plant Materials	469	3	9	.....	.....	.....
Civic Design	477	3	10	.....	.....	.....
Arboriculture and Ornamental Planting.....	452	5	4	.....	.....	.....
Lumber	454	5	9	.....	.....	.....
Minor Investigations in Forestry.....	644	3	1	.....	.....	.....
Amateur Floriculture	441	3	8	.....	.....	.....
Commercial Floriculture	443	5	5	.....	.....	.....
Minor Investigations in Floriculture.....	644	3	6	.....	.....	.....

Commercial Vegetable Gardening.....	.....	.....	.....	.....	.....	421	5	27	.....	.....	.....
Greenhouse Construction.....	.....	.....	.....	.....	.....	424	3	9	.....	.....	.....
Farm Horticulture.....	.....	.....	.....	.....	.....	.....	.....	.....	405	5	72
Commercial Vegetable Gardening.....	.....	.....	.....	.....	.....	.....	.....	.....	422	5	15
Small Fruits and Grapes.....	.....	.....	.....	.....	.....	.....	.....	.....	402	5	22
Pomology.....	.....	.....	.....	.....	.....	.....	.....	.....	404	5	29
Minor Investigations in Pomology.....	.....	.....	.....	.....	.....	.....	.....	.....	645	3	5
Timber Physics.....	.....	.....	.....	.....	.....	.....	.....	.....	457	5	67
Farm Woodlot.....	.....	.....	.....	.....	.....	.....	.....	.....	451	5	9
Minor Investigations in Forestry.....	.....	.....	.....	.....	.....	.....	.....	.....	645	3	1
Research.....	.....	.....	.....	.....	.....	.....	.....	.....	801	5	1
Garden Flowers.....	.....	.....	.....	.....	.....	.....	.....	.....	444	5	21
Conservatory Plants.....	.....	.....	.....	.....	.....	.....	.....	.....	447	3	3
Minor Investigations in Floriculture.....	.....	.....	.....	.....	.....	.....	.....	.....	645	3	6
Advanced Design.....	.....	.....	.....	.....	.....	.....	.....	.....	466	3	7
Elementary Plant Materials.....	.....	.....	.....	.....	.....	.....	.....	.....	470	3	7
Special Plant Problems.....	.....	.....	.....	.....	.....	.....	.....	.....	472	3	7
Landscape Engineering.....	.....	.....	.....	.....	.....	.....	.....	.....	475	5	10
Advanced Landscape Design.....	.....	.....	.....	.....	.....	.....	.....	.....	467	5	2

INDUSTRIAL ARTS

Shop Work.....	.....	.....	.....	401	5	1	.....	.....	.....	.....	.....
Foundry Work.....	405	3	13	405	3	25	405	3	16	405	3
Metal Bench Work.....	407	2	20	407	2	35	407	2	25	407	2
Metal Bench Work.....	.....	.....	.....	.....	.....	.....	408	2	13	408	2
Pattern Making.....	411	3	65	411	3	54	411	3	21	411	3
Forging.....	415	3	75	415	3	58	415	3	21	415	3
Elementary Machine Work.....	419	3	38	419	3	72	419	3	41	419	3
Advanced Machine Work.....	421	3	34	421	3	34	421	3	20	421	3
Advanced Machine Work.....	523	2	2	523	2	6	523	2	2	523	2

INDUSTRIAL EDUCATION

Elementary Woodwork.....	401	5	12	401	5	1	.....	.....	.....	401	5
Wood-turning and Pattern-making.....	501	5	6	501	5	6	.....	.....	.....	.....	.....
Advanced Wood-turning and Pattern-making..	502	5	3	.....	.....	.....	502	5	7	.....	.....
Cabinet Making.....	503	5	14	503	5	4	503	5	4	503	5
Advanced Cabinet Making.....	504	5	8	504	5	1	504	5	1	504	5
Methods Related to Agricultural Shopwork...	509	3	9	.....	.....	.....	509	3	4	.....	.....
Shopwork Related to Farm.....	510	3	20	.....	.....	.....	510	3	17	.....	.....
Constructive Design.....	521	3	8	521	3	2	.....	.....	.....	.....	.....
Advanced Constructive Design.....	522	3	4	.....	.....	.....	522	3	3	.....	.....
Teaching of Industrial Education.....	523	3	12	.....	.....	.....	.....	.....	.....	523	3
Materials and Methods.....	524	3	8	524	3	5	.....	.....	.....	524	3
Shop Planning and Equipment.....	525	3	2	.....	.....	.....	525	3	7	.....	.....
Craftwork for Women.....	.....	.....	.....	507	3	3	507	3	5	507	3
Craftwork for Women.....	.....	.....	.....	.....	.....	.....	508	3	3	508	3
Electrical Work and Pipe Fitting.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	505	3
Sheet Metal Work.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	506	3
Supervision of Practice Teaching in Principles and Practice (440).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5

THE WORK OF INSTRUCTORS—1922-1923—Continued

238

THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
JOURNALISM												
News Gathering and News Writing.....	401	5	10	401	5	18	.....	.....	.....	.....	.....	.....
News Gathering and News Writing.....	401	5	30	.....	.....	.....	.....	.....	.....
News Gathering and News Writing.....	401	5	29	.....	.....	.....
News Gathering and News Writing.....	401	5	28
News Gathering and News Writing.....	402	5	12	.....	.....	.....	.....	.....	.....
News Gathering and News Writing.....	402	5	25	.....	.....	.....
News Gathering and News Writing.....	402	5	10	402	5	18
Agricultural Journalism.....	407	3	7	.....	.....	.....	407	3	9
Agricultural Journalism.....	408	3	3	.....	.....	.....
Industrial Journalism.....	413	3	5	413	3	9
Industrial Journalism.....
Copy Reading.....	501	3	40	.....	.....	.....	501	3	16
Feature Writing.....	502	3	7	.....	.....	.....	502	3	32	.....	.....	.....
Newspaper Ethics and Principles.....	513	3	9	.....	.....	.....	513	3	35	.....	.....	.....
Newspaper Law.....	514	3	25	.....	.....	.....	514	3	19
Newspaper History and Comparative Journalism.....
Newspaper Organization.....	517	5	24	.....	.....	.....	517	5	12
The Community Weekly.....	525	3	20	518	5	27	.....	.....	.....
The Newspaper Business Office.....	526	3	30	525	3	27
Newspaper Problems.....	607	2	28	.....	.....	.....
Newspaper Problems.....	608	2	28
Editorial Writing.....	621	5	25	.....	.....	.....	.....	.....	.....
Public Opinion in the Making.....	622	5	25	.....	.....	.....
LATIN												
Elementary Latin.....	401	5	44	.....	.....	.....	.....	.....	.....
Cicero, Orations.....	404	5	21	.....	.....	.....	.....	.....	.....
Cicero, Horace, Ovid.....	405	5	27	.....	.....	.....	.....	.....	.....
Catullus, Pliny.....	601	3	16	.....	.....	.....	.....	.....	.....
Advanced Reading.....	604	3	3	.....	.....	.....	.....	.....	.....
Legal Latin.....	605	3	2	.....	.....	.....	.....	.....	.....
Latin and Comparative Literature.....	606	3	21	.....	.....	.....	.....	.....	.....
Historical Latin Grammar.....	609	3	4	.....	.....	.....	.....	.....	.....
Prose Composition, First Course.....	612	3	7	.....	.....	.....	.....	.....	.....

Methods of Teaching Latin.....	617	3	6	402	5	31			
Elementary Latin and Caesar.....				405	5	13			
Vergil.....				407	5	20			
Horace, Livy.....				602	3	14			
Horace, Satires and Epistles.....				607	3	23			
Roman Private Life.....				610	3	2			
Roman Religion.....				611	3	4			
Roman Public Life.....				613	3	4			
Prose Composition, Second Course.....				615	3	5			
Proseminary.....				617	3	2			
Methods of Teaching Latin.....									
Caesar.....							403	5	16
Latin Comedy.....							408	5	27
Advanced Reading.....							603	3	5
Roman Archaeology.....							608	3	24
Advanced Composition.....							614	3	3
Proseminary.....							616	3	5
COLLEGE OF LAW									
JOHN J. ADAMS									
Code Pleading.....				4	70				
Public Corporations.....				3	29				
Evidence.....						3	68	3	71
Judgments and Bankruptcy.....						4	81		
Practice.....						3	44	4	43
Legal Ethics.....									43
CLARENCE D. LAYLIN				5 lectures					
Quasi-Contracts.....				3	68				
Equity I.....				4	65				
Equity III.....				3	47				
Equity II.....						3	64		
Conflict of Laws.....						3	39	3	23
Domestic Relations.....								3	105
Mortgages.....								2	74
ALONZO H. TUTTLE									
Torts.....				3	117	3	108	3	101
Criminal Law.....				5	116				
Constitutional Law I.....						5	42		
Constitutional Law II.....								2	39
Partnership.....								3	65
GEORGE W. RIGHTMIRE									
Negotiable Instruments.....				4	41	4	16		
Civil Procedure.....				3	118				
Contracts.....				3	117	3	108	3	105
Agency.....						3	100		
Suretyship.....								2	101
Sales.....								4	71
LEWIS M. SIMES									
Wills.....				3	73				
Private Corporations.....				3	43	3	43		
Property I.....						4	110		
Property III.....						4	72		

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Course No.	Total No. of Students in Credit Hours	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Property II	4	104
Property IV	4	22
MATHEMATICS												
Elementary Math. Analysis.....	431	5	34	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elementary Math. Analysis.....	433	5	42	.....	.....	.....	.....	.....	.....	.....	.....	.....
Integral Calculus	443	5	25	.....	.....	.....	.....	.....	.....	.....	.....	.....
Advanced Calculus	601	5	20	.....	.....	.....	.....	.....	.....	.....	.....	.....
Functions of a Real Variable.....	606	5	9	.....	.....	.....	606	5	7	.....	.....	.....
Teaching of Mathematics	681	3	30	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	160	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Freshman Math.....	400	3	119	.....	.....	.....	.....	.....	.....
Elementary Analysis	421	5	95	421	5	27	.....	.....	.....
Selected Topics in Math.....	424	5	35	.....	.....	.....	.....	.....	.....
Mathematics of Finance.....	429	5	32	.....	.....	.....	429	5	70
Elementary Analysis	431	5	323	431	5	148	.....	.....	.....
Elementary Analysis	432	5	98	432	5	268	432	5	108
Differential Calculus	441	5	313	441	5	60	441	5	50
Differential Calculus	442	5	75	442	5	299	442	5	73
Advanced Calculus	601	5	7	.....	.....	.....	.....	.....	.....
Differential Equations	611	5	30	.....	.....	.....	.....	.....	.....
Elementary Theory of Equations.....	641	5	9	.....	.....	.....	.....	.....	.....
Teaching of Mathematics.....	681	3	12	.....	.....	.....	.....	.....	.....
Probability	691	5	5	.....	.....	.....	.....	.....	.....
Fourier's Series and Spherical Harmonics.....	861	5	3	.....	.....	.....	.....	.....	.....
Total	1156	.....	.....	.....	.....	.....	.....
Elementary Analysis	422	5	58	422	5	23
Mathematics of Insurance	430	5	5	.....	.....	.....
Elementary Analysis	433	5	72	433	5	227
Integral Calculus	443	5	52	443	5	187
Differential Equations	612	5	22	.....	.....	.....
Modern Synthetic Geometry.....	621	5	8	.....	.....	.....
Solid Analytic Geometry.....	625	5	6	.....	.....	.....
Fundamental Concepts Algebra and Geometry	683	3	13	.....	.....	.....
Total	1045	.....	.....	.....
Advanced Calculus	603	5	9

Theory Functions of Complex Variable.....	.....	.....	.....	.....	.....	.....	.....	.....	623	.....	7
Elementary Analysis .....	.....	.....	.....	.....	.....	.....	.....	.....	806	5	7
Total .....	.....	.....	.....	.....	.....	.....	.....	.....	423	5	24

785

MECHANICAL ENGINEERING

Power Plants .....	.....	.....	.....	.....	.....	.....	.....	.....	405	3	72
Practical Experience in a Mechanical Engineering Industry	439	5	58	.....	.....	.....	.....	.....	.....	.....	.....
Heat—Power Engineering .....	.....	.....	.....	505	3	55	506	3	47	509	3
Heat Engines .....	.....	.....	.....	507	4	17	.....	.....	.....	.....	39
Machine Design .....	.....	.....	.....	512	3	43	.....	.....	.....	.....	.....
Mechanical Engineering Laboratory.....	.....	.....	.....	.....	.....	.....	522	3	49	521	3
Heating and Ventilating .....	.....	.....	.....	551	2	29	.....	.....	.....	.....	40
Mechanical Engineering Laboratory.....	.....	.....	.....	.....	.....	.....	572	3	19	.....	.....
Mechanical Engineering Laboratory.....	.....	.....	.....	573	5	40	574	3	37	.....	.....
Mechanical Engineering Laboratory.....	.....	.....	.....	575	3	54	576	3	49	.....	.....
Mechanical Engineering Laboratory.....	.....	.....	.....	591	5	22	.....	.....	.....	.....	.....
Steam Engineering .....	.....	.....	.....	603	3	76	604	4	58	609	4
Heating and Ventilating.....	.....	.....	.....	605	3	60	.....	.....	.....	.....	56
Mechanism .....	.....	.....	.....	.....	.....	.....	614	4	48	.....	.....
Mechanism Drawing .....	.....	.....	.....	.....	.....	.....	616	2	46	.....	.....
Gas Engines and Producers.....	.....	.....	.....	625	3	61	.....	.....	.....	625	3
Materials of Engineering.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	627	3
Inspection Trip to the West.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	632	47
Reading Course .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	636	8
A. S. M. E. Student Branch Meetings.....	.....	.....	.....	651	$\frac{1}{2}$	64	652	$\frac{1}{2}$	60	653	$\frac{1}{2}$
Mechanical Engineering Laboratory.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	664	3
Automotive Engineering .....	.....	.....	.....	.....	.....	.....	701	3	30	702	3
Machine Design .....	.....	.....	.....	727	5	105	728	5	102	744	5
Applied Thermodynamics .....	.....	.....	.....	.....	.....	.....	729	3	8	.....	.....
Inspection Trip to the West.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	782	53
Reading Course .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	786	6
Hydraulic Machinery .....	.....	.....	.....	.....	.....	.....	742	3	46	742	3
Steam Turbines .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	746	3
Special Design .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	747	3
Thesis Work .....	.....	.....	.....	748	3	1	748	3	7	748	3
Thesis Work .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	748	5
Hydraulic Power .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	750	4
A. S. M. E. Student Branch Meetings.....	.....	.....	.....	751	$\frac{1}{2}$	65	752	$\frac{1}{2}$	62	753	$\frac{1}{2}$
Mechanical Engineering Laboratory.....	.....	.....	.....	779	3	60	780	3	56	781	3
Mechanical Engineering Laboratory.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	793	3
Gas Power Research Work .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	803	6

MECHANICS

Statics .....	.....	.....	.....	601	5	282	601	5	56	601	5
Strength of Materials .....	.....	.....	.....	.....	.....	.....	602	5	213	602	5
Strength of Materials (Architects).....	.....	.....	.....	.....	.....	.....	604	3	11	.....	39
Strength of Materials, Kinetics, and Hydraulics .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	603	5
Advanced Theoretical Mechanics.....	.....	.....	.....	801	3	3	802	3	1	.....	187

THE WORK OF INSTRUCTORS—1922-1923—Continued

242

THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
MEDICINE AND CLINICAL MEDICINE												
Physical Diagnosis	601	3	93	.....	.....	.....
Medicine, General and Clinical.....	602	5	53	603	5	53	604	5	53
Nervous Diseases	605	3	53	.....	.....	.....	.....	.....	.....
Dermatology	606	3	53
Genito-Urinary Diseases	607	3	53	.....	.....	.....
Medicine, General and Clinical.....	608	2	48	609	2	48	610	2	48
Psychiatry	611	1	48	.....	.....	.....
Pediatrics, Didactic and Clinical.....	612	2	48	.....	.....	.....
Pediatrics, Clinical Conference.....	613	2	48
Therapeutics	614	2	48	.....	.....	.....	.....	.....	.....
Ward Clinics (Medicine).....	601	2	48	602	2	48	603	2	48
METALLURGY												
Metallurgical Analysis	405	5	15	.....	.....	.....
Metallurgical Analysis	406	5	11
Fire Assaying	410	3	27	.....	.....	.....	410	3	14
Industrial Experience
Ceramic Analysis	451	3	23	451	3	11	.....	.....	.....
Ceramic Analysis	452	4	18	.....	.....	.....
Ceramic Analysis	453	4	17
Metallurgical Analysis	454	4	8	.....	.....	.....	.....	.....	.....
Fuels and Fuel Testing	601	5	10	.....	.....	.....	.....	.....	.....
Iron and Steel and Elementary Metallography	605	4	13	.....	.....	.....
Non-Ferrous Metallurgy	610	5	7
Principles of Ore Dressing.....	620	5	9	620	5	10	.....	.....	.....
Inspection Trip	10
Pyrometry	650	2	13	.....	.....	.....	650	2	8
Fuels	651	3	77	651	3	33	.....	.....	.....
Gas Testing and Calorimetry.....	652	1	53	.....	.....	.....	.....	.....	.....
Technical Gas and Fuel Analysis.....	655	3	9	.....	.....	.....
General Metallurgy	655	5	26
Advanced Metallography	701	4	11	.....	.....	.....	.....	.....	.....
Heat Treatment and Special Steels.....	702	3	9	.....	.....	.....
Metallurgical Construction	705	4	12	.....	.....	.....
Metallurgical Construction	3	.....	706	4	12

Metallurgical Investigations .....	.....	.....	.....	.....	.....	.....	710	5	6	.....	.....	.....
Metallurgical Investigations .....	.....	.....	.....	.....	.....	.....	711	5	10	711	5	3
Ore Dressing .....	.....	.....	.....	.....	720	3	10	.....	.....	.....	.....	.....
Thesis .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	725	5	8
MILITARY SCIENCE AND TACTICS												
Military Science Infantry .....	.....	.....	.....	401	1	1187	402	1	1082	403	1	898
Military Science Infantry	404	1	9	404	1	649	405	1	622	406	1	582
Military Science Advanced Infantry .....	.....	.....	.....	507	3	34	508	3	35	509	3	32
Military Science Advanced Infantry .....	.....	.....	.....	510	3	34	511	3	31	512	3	27
Military Science Field Artillery .....	.....	.....	.....	421	1	263	422	1	268	423	1	249
Military Science Field Artillery .....	.....	.....	.....	424	1	210	425	1	194	426	1	160
Military Science Advanced Field Artillery .....	.....	.....	.....	527	3	25	528	3	27	529	3	29
Military Science Advanced Field Artillery .....	.....	.....	.....	530	3	20	531	3	19	532	3	18
Military Science Signal Corps .....	.....	.....	.....	441	1	.....	442	1	.....	443	1	.....
Military Science Signal Corps .....	.....	.....	.....	444	1	68	445	1	70	446	1	71
Military Science Advanced Signal Corps .....	.....	.....	.....	547	3	37	.....	.....	.....	549	4	34
Military Science Advanced Signal Corps .....	.....	.....	.....	550	4	24	551	3	26	552	3	23
Military Science Medical Corps .....	.....	.....	.....	461	1	.....	462	1	.....	463	1	.....
Military Science Medical Corps .....	.....	.....	.....	464	1	.....	465	1	.....	466	1	.....
Military Science Advanced Medical Corps .....	.....	.....	.....	567	1	.....	568	1	.....	569	1	.....
Military Science Advanced Medical Corps .....	.....	.....	.....	570	1	43	571	1	43	572	1	43
Military Science Dental Corps .....	.....	.....	.....	451	1	12	452	1	15	453	1	15
Military Science Dental Corps .....	.....	.....	.....	454	1	10	455	1	10	456	1	9
Military Science Advanced Dental Corps .....	.....	.....	.....	557	1	38	558	1	38	559	1	36
Military Science Advanced Dental Corps .....	.....	.....	.....	560	1	7	561	1	7	562	1	7
Military Science Veterinary Corps .....	.....	.....	.....	471	1	8	472	1	14	473	1	11
Military Science Veterinary Corps .....	.....	.....	.....	474	1	12	475	1	13	476	1	12
Military Science Advanced Veterinary Corps ..	.....	.....	.....	577	1	7	578	1	7	579	1	7
Military Science Advanced Veterinary Corps ..	.....	.....	.....	580	1	13	581	1	13	582	1	12
MINE ENGINEERING												
Mine Engineering .....	.....	.....	.....	401	4	18	.....	.....	.....	.....	.....	.....
Mine Engineering .....	.....	.....	.....	501	5	15	.....	.....	.....	.....	.....	.....
Developments and Methods of Mining .....	.....	.....	.....	701	3	11	.....	.....	.....	.....	.....	.....
Mining Investigations .....	.....	.....	.....	801	5	1	.....	.....	.....	.....	.....	.....
Mapping .....	.....	.....	.....	.....	.....	.....	402	2	15	.....	.....	.....
Mine Operations .....	.....	.....	.....	.....	.....	.....	702	5	13	.....	.....	.....
Mine Design .....	.....	.....	.....	.....	.....	.....	711	5	12	.....	.....	.....
Mine Trip .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	403	K	8
Prospecting and Preliminary Operations .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	601	5	9
Inspection Trip .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	630	K	8
Mine Examinations and Reports .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	703	5	11
Mine Design .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	712	5	11
Thesis .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	741	5	8
MINERALOGY												
Crystallography .....	.....	.....	.....	401	2	95	401	2	25	401	2	5
Descriptive Mineralogy .....	.....	.....	.....	.....	.....	.....	402	4	64	402	4	13
Blowpipe Analysis .....	.....	.....	.....	404	4	12	404	4	10	.....	.....	.....
Thermochemical Mineralogy .....	.....	.....	.....	605	3	15	.....	.....	.....	605	4	19

THE WORK OF INSTRUCTORS—1922-1923—Continued

244

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Microscopic Mineralogy	621	5	7	.....	.....	.....	621	5	4
Mineralogical Investigations	631	5	4	631	3	2
OBSTETRICS												
Obstetrics, Normal	601	3	53
Obstetrics, Abnormal	602	3	48	.....	.....	.....	.....	.....	.....
Obstetrics, Pathological	603	3	48	.....	.....	.....
Obstetrics, Pathological	604	3	48
Clinical Obstetrics	605	2	48	.....	.....	.....	.....	.....	.....
OPHTHALMOLOGY AND OTO-LARYNGOLOGY												
Ophthalmology	601	3	53	.....	.....	.....	.....	.....	.....
Oto-Laryngology	602	3	53	.....	.....	.....
PATHOLOGY												
General Pathology	601	3	95	602	5	95
Clinical Pathology	603	3	40	604	3	40	.....	.....	.....
Surgical Pathology	605	2	23
Medical Pathology	606	2	22
Post-Mortem Demonstration	607	1	Avg. 10	607	1	Avg. 10	607	1	Avg. 10	607	1	Avg. 10
Advanced Pathology	608	3	8	609	3	8	610	3	1
Experimental Pathology	615	3	3
Advanced Clinical Pathology	618	3	26
PHARMACY												
Pharmacy, Theoretical	401	5	134	401	5	20	.....	.....	.....
Pharmacy, Lecture and Laboratory	402	5	110	402	5	26
Pharmacy, Lecture and Laboratory	403	5	87
Pharmacy, Advanced	401	5	85	.....	.....	.....	.....	.....	.....
Pharmacy, Advanced	405	5	82	.....	.....	.....
Pharmacy, Assaying and Prescription Work	406	5	79
Pharmacy, Materia Medica	407	3	88	.....	.....	.....	.....	.....	.....
Pharmacy, Materia Medica	408	3	82	.....	.....	.....
Pharmacy, Materia Medica	409	3	79

Pharmacy, Pharmaceutical Chemistry.....	410	5	12	411	5	10	412	5	10
Pharmacy, Pharmaceutical Assaying.....	413	3	112	413	3	10	414	3	13
Pharmacy, Pharmaceutical Problems.....	413	3	112	414	3	100	415	3	88
Pharmacognosy (microscopical).....	416	3	10	417	3	10	418	3	10
Pharmacognosy (microscopical) Advanced.....	419	5	84	420	4	15	421	4	17
Pharmacognosy (microscopical) Advanced.....	420	4	106	421	4	86	422	5	101
Pharmacognosy (microscopical) Advanced.....	423	2	64	424	2	64	425	1	47
Toxicology.....	425	1	125	426	1	99	427	3	22
Pharmaceutical Latin.....	426	1	99	427	3	22	428	1	59
Pharmaceutical Latin.....	427	3	22	428	1	59			
Commercial Pharmacognosy.....	428	1	59						
Commercial Pharmacy.....	429	1	59						
Commercial Pharmacy.....	430	1	59						
Pharmaceutical Arithmetic.....	431	1	59						
Pharmaceutical Arithmetic.....	432	1	59						
Pharmacy, Applied Special Tests.....	433	1	59						
Pharmaceutical and Technical Reading and Abstracts.....	434	1	59						

PHILOSOPHY

Introduction to Philosophy.....	401	5	52	401	5	85	401	5	38	401	5	102
Elementary Logic.....	402	5	29	402	5	29	402	5	55	402	5	81
Principles of Philosophy.....	403	5	41	403	5	45	404	5	27	405	5	77
Elementary Ethics.....	405	5	41	405	5	45	406	5	70	407	5	29
Development of Hebrew Ideas.....	406	5	70	407	5	29	408	5	14	409	5	12
Aesthetics.....	408	5	14	409	5	12	410	5	3	411	5	3
History of Ancient and Mediaeval Philosophy.....	411	5	3	412	5	3	413	5	3	414	5	3
History of Modern Philosophy.....	413	5	3	414	5	3	415	5	3	416	5	3
Contemporary Philosophy.....	415	5	3	416	5	3	417	5	3	418	5	3
Advanced Ethics.....	417	5	3	418	5	3	419	5	3	420	5	3
Oriental Philosophy.....	419	5	3	420	5	3	421	5	3	422	5	3
Oriental Philosophy.....	421	5	3	422	5	3	423	5	3	424	5	3
Plato.....	423	5	3	424	5	3	425	5	3	426	5	3
Representative Pre-Kantian Philosophers.....	425	5	3	426	5	3	427	5	3	428	5	3
Advanced Logic and Epistemology.....	427	5	3	428	5	3	429	5	3	430	5	3
Philosophy of Science.....	429	5	3	430	5	3	431	5	3	432	5	3
Philosophy of Religion.....	431	5	3	432	5	3	433	5	3	434	5	3
Social Ethics.....	433	5	3	434	5	3	435	5	3	436	5	3
Metaphysics of Knowledge and Nature.....	435	5	3	436	5	3	437	5	3	438	5	3
Metaphysics of Personality and Values.....	437	5	3	438	5	3	439	5	3	440	5	3
Pragmatism.....	439	5	3	440	5	3	441	5	3	442	5	3
Seminary in Systematic Philosophy.....	441	5	3	442	5	3	443	5	3	444	5	3
Research.....	443	5	3	444	5	3	445	5	3	446	5	3

PHYSICAL EDUCATION MEN

Hygiene.....	400	1	13	400	1	781	400	1	389	400	1	278
Physical Education.....	404	1	25	401	1	1644	402	1	1404	403	1	1189

THE WORK OF INSTRUCTORS—1922-1923—Continued

246

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
WOMEN												
Hygiene	400	1	22	400	1	404	400	1	165	400	1	150
Physical Education	424	1	25	421	1	603	422	1	681	423	1	584
Physical Education	428	1	24	425	1	534	426	1	523	427	1	582
NORMAL												
Folk Dancing	461	2	16	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elementary Interpretative Dancing	464	1	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
Advanced Interpretative Dancing	466	1	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sports Technique	470	1	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sports Technique	471	1	25	.....	.....	.....	.....	.....	.....	.....	.....	.....
First Aid	473	1	72	473	1	13	.....	.....	.....	.....	.....	.....
Organization and Administration of Physical Education in Secondary Schools	481	1	25	.....	.....	.....	481	1	13	.....	.....	.....
Play and Playground	482	3	20	.....	.....	.....	.....	.....	.....	.....	.....	.....
School Room Gymnastics and Games	483	1	21	.....	.....	.....	.....	.....	.....	.....	.....	.....
Swedish Gymnastics	484	1	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
Light Apparatus	488	1	23	.....	.....	.....	.....	.....	.....	.....	.....	.....
Heavy Apparatus	489	1	Not given	.....	.....	.....	.....	.....	.....	.....	.....	.....
Principles of Coaching Football	501	2	28	.....	.....	.....	502	2	18	.....	.....	.....
Advanced Football Technique	502	1	21	.....	.....	.....	502	1	8	.....	.....	.....
Principles of Coaching Basketball	504	1	27	.....	.....	.....	504	1	11	.....	.....	.....
Principles of Coaching Track and Field Sports	508	1	18	.....	.....	.....	508	1	8	.....	.....	.....
Principles of Coaching Baseball	512	1	18	.....	.....	.....	.....	.....	.....	512	1	11
Teaching of Physical Education	642	5	12	.....	.....	.....	.....	.....	.....	642	5	6
Physical Diagnosis .....	.....	.....	.....	.....	.....	.....	650	3	Not given	.....	.....	.....
History and Principles of Physical Education .....	.....	.....	.....	.....	.....	.....	681	3	12	.....	.....	.....
Prevention and Care of Injuries, Including Training of Athletes	685	3	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
PHYSICS												
General Physics—Mechanics and Heat .....	.....	.....	.....	401	5	106	.....	.....	.....	401	5	20
General Physics—Sound, Light, Electricity .....	.....	.....	.....	.....	.....	.....	402	5	63	.....	.....	.....

THE OHIO STATE UNIVERSITY

General Physics—Mechanics and Heat.....	403	5	17	403	5	224	403	5	48
General Physics—Sound, Light, Electricity.....	404	5	27	404	5	178	404	5	87
Special Pre-medical Physics.....	.....	.....	.....	.....	.....	.....	405	5	10
Advanced General Physics—Mechanics and Heat.....	407	5	7	407	5	6	407	5	10
Advanced General Physics—Sound, Light, Electricity.....	.....	.....	.....	.....	.....	.....	408	5	5
Teaching of Physics.....	.....	.....	.....	.....	.....	.....	420	3	10
General Physics for Engineers—Mechanics and Heat to Conductivity.....	431	5	14	431	5	246	431	5	54
General Physics for Engineers—Heat (completed) Sound and Light.....	.....	.....	.....	.....	.....	.....	432	5	191
General Physics for Engineers—Electricity and Magnetism.....	.....	.....	.....	433	5	16	.....	.....	.....
Electricity and Magnetism (E. E.).....	.....	.....	.....	435	3	104	.....	.....	.....
Electricity and Magnetism (E. E.).....	.....	.....	.....	.....	.....	.....	436	5	79
Electrical Measurements and Photometry (E. E.).....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Advanced Laboratory Mechanics and Heat (Arts).....	602	3	9	602	3	5	.....	.....	.....
Advanced Laboratory Radiation (Arts).....	.....	.....	.....	.....	.....	.....	603	3	3
Advanced Laboratory Electrical Measurements (Arts).....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Advanced Laboratory Ionization and Radioactivity (Arts).....	.....	.....	.....	.....	.....	.....	605	3	4
Advanced Light (Intermed.).....	607	4	11	.....	.....	.....	607	4	5
Molecular Physics and Heat (Intermed.).....	.....	.....	.....	609	4	7	.....	.....	.....
Conduction of Electricity through Gases and Radioactivity (Intermed.).....	.....	.....	.....	.....	.....	.....	610	4	10
Advanced Theory of Light (Grad.).....	.....	.....	.....	801	3	2	.....	.....	.....
Advanced Theory of Light (Grad.).....	.....	.....	.....	.....	.....	.....	802	3	2
Theory of Electricity and Magnetism (Grad.).....	.....	.....	.....	805	3	4	.....	.....	.....
Theory of Electricity and Magnetism (Grad.).....	.....	.....	.....	.....	.....	.....	806	3	3
Theory of Electricity and Magnetism (Grad.).....	.....	.....	.....	809	3	6	.....	.....	.....
Theory of Oscillations (Grad.).....	.....	.....	.....	.....	.....	.....	810	3	6
Theory of Oscillations (Grad.).....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Theory of Oscillations (Grad.).....	.....	.....	.....	812	1	2	812	1	1
Seminary in Physics.....	.....	.....	.....	830	3	3	.....	.....	.....
Research Laboratory (Grad.).....	.....	.....	.....	.....	.....	.....	831	3	5
Research Laboratory (Grad.).....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Research Laboratory (Grad.).....	.....	.....	.....	.....	.....	.....	832	3	9

PHYSIOLOGICAL CHEMISTRY,
PHARMACOLOGY, AND
MATERIA MEDICA

Physiological Chemistry (Dental).....	.....	.....	.....	.....	.....	.....	401	3	16
Physiological Chemistry.....	.....	.....	.....	601	5	110	.....	.....	.....
Physiological Chemistry.....	.....	.....	.....	.....	.....	.....	602	5	82
Quantitative Methods of Blood and Urine Analysis.....	.....	.....	.....	603	3	11	603	3	13
Evaluation of Diets.....	.....	.....	.....	.....	.....	.....	604	2	0
Pharmacology.....	.....	.....	.....	.....	.....	.....	605	5	90

THE WORK OF INSTRUCTORS—1922-1923—Continued

248

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Credit Hours	Credit Hours	Total No. of Students in All Sections
PHYSIOLOGY												
Physiology				401	5	82	402	5	67	.....	.....	.....
General Physiology				403	5	287	404	5	248	.....	.....	.....
General Physiology .....				.....	.....	.....	403	5	76	404	5	55
Comparative Physiology				413	4	15	414	4	15	415	4	15
Principles of Physiology .....				.....	.....	.....	.....	.....	.....	419	5	105
Physiology of the Eye				440	3	11	.....	.....	.....	.....	.....	.....
Dental Physiology				427	3	60	428	3	60	429	3	60
Advanced Physiology				604	5	114	605	5	111	604	5	110
Physiological Laboratory				611	5	2	612	5	3	611	5	1
Physiological Laboratory .....				.....	.....	.....	.....	.....	.....	613	3	1
Physiological Laboratory .....				.....	.....	.....	.....	.....	.....	613	5	6
Research Physiology				801	5	1	802	5	1	803	5	1
Research Physiology .....				.....	.....	.....	805	5	1	806	5	1
Total .....				.....	.....	572	.....	.....	582	.....	.....	355
POLITICAL SCIENCE												
American Federal Government	401	5	63	401	5	135	401	5	58	401	5	107
Government and Politics of Foreign Countries				402	5	66	402	5	77	402	5	50
American State and Local Government .....				.....	.....	.....	403	5	41	403	5	81
State Legislative and Administrative Problems .....				.....	.....	.....	.....	.....	.....	604	3	37
Municipal Government				607	5	23	.....	.....	.....	.....	.....	.....
Municipal Functions .....				.....	.....	.....	608	3	10	.....	.....	.....
Introduction to Jurisprudence				611	5	27	.....	.....	.....	.....	.....	.....
International Law .....				.....	.....	.....	612	3	33	.....	.....	.....
Contemporary International Politics	613	5	33	.....	.....	.....	.....	.....	.....	.....	.....	.....
American Constitutional Law				616	3	22	.....	.....	.....	.....	.....	.....
History of Political Theories .....				.....	.....	.....	619	3	24	.....	.....	.....
Recent and Contemporary Political Theories .....				.....	.....	.....	.....	.....	.....	620	3	24
Methods of Governmental Research				631	2	7	632	2	7	.....	.....	.....
Research in Political Science	801	3-5	6	801	3-5	4	802	3-5	4	803	3-5	4
POULTRY HUSBANDRY												
Poultry Husbandry				59	3	37	.....	.....	.....	.....	.....	.....
Farm Poultry				401	2½	10	.....	.....	.....	.....	.....	.....

Breeds of Poultry and Poultry Feeding	402	5	16	402	3	15	402	3	15	404	5	15
Poultry Housing and Marketing	402	5	16	402	3	15	402	3	15	404	5	15
Poultry Husbandry	402	5	16	402	3	15	402	3	15	404	5	15
Farm Poultry	402	5	16	402	3	15	402	3	15	404	5	15
WINTER COURSE (2 weeks)	402	5	16	402	3	15	402	3	15	404	5	15
WINTER COURSE (4 weeks)	402	5	16	402	3	15	402	3	15	404	5	15
Incubation, Brooding and Breeding	402	5	16	402	3	15	402	3	15	404	5	15

PRINCIPLES OF EDUCATION

Principles of Education (First Term)	402	2	69	402	2	69	402	2	69	402	2	69
Conceptions of Mind in Educational Theory...	621	2	21	620	2	14	621	2	21	620	2	14
Principles of Education	403	2	60	401	5	165	403	2	60	401	5	165
Principles and Methods of High School Teaching	411	2	43	410	5	37	411	2	43	410	5	37
Principles and Methods of Junior High School Teaching	412	2	23	412	2	6	412	2	23	412	2	6
Principles and Methods of Elementary School Teaching	421	2	17	422	2	6	421	2	17	422	2	6
Observation, Criticism, and Practice	431	2	15	430	5	3	431	2	15	430	5	3
Social Aims in Education	432	2	6	440	5	23	432	2	6	440	5	23
School and Community	461	2	29	460	5	21	461	2	29	460	5	21
Principles of Science Teaching	471	2	13	470	5	5	471	2	13	470	5	5
Teaching of the Common Branches	491	2	42	490	5	16	491	2	42	490	5	16
Social Education	500	3	40	500	3	40	500	3	40	500	3	40
Supervision of Teaching	611	2	28	610	5	4	611	2	28	610	5	4
Logical and Ethical Aspects of Education	612	2	9	630	3	16	612	2	9	630	3	16
Modern Tendencies in Education	641	2	16	640	3	41	641	2	16	640	3	41
Minor Problems	650	2-4	2	651	2-4	2	650	2-4	2	651	2-4	2
Seminary in Educational Theory	801	3	10	803	3	8	801	3	10	803	3	8
Major Research	850	3	2	851	3	3	850	3	2	851	3	3
Totals	441	258	161	441	258	161	441	258	161	441	258	161
Grand Totals	441	258	161	441	258	161	441	258	161	441	258	161

PSYCHOLOGY

101 Elementary Psychology	401	5	90	401	5	701	401	5	380	401	5	640
Elementary Psychology (continued)	402	5	30	402	5	169	402	5	412	402	5	237
Elementary—with Laboratory	403	5	14	403	5	14	403	5	11	403	5	11
Elementary—Agriculture College	405	5	16	405	5	16	405	5	16	405	5	16
Educational Psychology	407	5	65	407	5	195	407	5	157	407	5	137
Psychology of School Subjects	410	3	16	410	3	16	410	3	16	410	3	16
Experimental Psychology	601	3	7	602	3	7	601	3	7	601	3	10
Physiological Psychology	603	3	14	604	3	12	603	3	12	603	3	12
Genetic Psychology	607	5	43	607	5	59	607	5	43	607	5	59
Mental Measurements	608	5	7	608	5	16	608	5	7	608	5	16
Exceptional Children	609	3	22	609	3	20	609	3	22	609	3	20
Defective Child	611	3	33	611	3	33	611	3	33	611	3	33
Mental Tests	613	3	36	613	3	17	613	3	36	613	3	13
Test Laboratory	614	3	5	614	3	5	614	3	5	614	3	5

THE WORK OF INSTRUCTORS—1922-1923—Continued

250

THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Psychological Clinic	615	2	33	615	2	16	615	2	31	615	2	33
Social Psychology	621	5	16	621	5	34	.....	.....	.....	.....	.....	.....
Advanced Psychology	629	5	22	.....	.....	.....	629	5	32	.....	.....	.....
Feeling and Emotion	630	5	7
Criminal and Legal Psychology	634	5	50	.....	.....	.....
Psychology of Advertising	635	3	53	.....	.....	.....	.....	.....	.....
Advertising Laboratory	636	3	5	.....	.....	.....
Industrial Psychology	637	3	21	.....	.....	.....
Industrial Psychology Laboratory	638	3	2	.....	.....	.....	638	3	4
Abnormal Psychology	641	5	56	.....	.....	.....
Psycho-pathology	643	1	45	642	3	45
History of Psychology	645	5	6	.....	.....	.....	.....	.....	.....
Principles of Behavior	646	3	15
Minor Research	650	*	11	650	*	10	650	*	17	650	*	22
Major Research	801	*	3	801	*	15	801	*	15	801	*	13
Seminary in Psychology	803	2	3	803	2	20	803	2	10	803	2	5
Contemporary Psychological Literature	805	1	9	805	1	4	.....	.....	.....
PUBLIC HEALTH												
Public Health Nursing	404	3	13	.....	.....	.....	.....	.....	.....
Elementary Nursing	406	3	43	.....	.....	.....	.....	.....	.....
Public Health Nursing Field Work	452	7	2	.....	.....	.....	.....	.....	.....
Public Health Nursing	405	3	13	.....	.....	.....
Elementary Nursing	406	3	56	.....	.....	.....
Preventive Medicine (Nursing)	451	3	16	.....	.....	.....
Public Health Nursing Field Work	453	7	6	.....	.....	.....
Elementary Nursing	407	2	5
Public Health Nursing Field Work	454	7	6
Public Health Nursing Seminary	456	7	5
Preventive Medicine (Sen. Med.)	604	2	49	.....	.....	.....	.....	.....	.....
P. E.												
Personal Hygiene (Physical Edu. ½ Quarter)	400	1	125	.....	.....	.....	.....	.....	.....
Personal Hygiene	401	3	27	.....	.....	.....	.....	.....	.....
Public Health Problems	602	3	15	.....	.....	.....	.....	.....	.....
Public Health Problems (Graduate)	801	4	1	.....	.....	.....	.....	.....	.....
Industrial Nursing (Unl. Hosp. Nurses ½

*The hours credit in the research courses varies with the student. In Minor research the average student takes two or three credit hours. In Major research anything from three to 10, with an average of about six.

Quarter)				Spec.	1	10							
Public-health Laboratory (Graduate)				813	4	1							
Personal Hygiene							601	3	18				
Industrial Hygiene							603	3	25				
Industrial Hygiene (Graduate)							803	5	2				
Public-health Laboratory (Graduate)							814	4	1				
Public Health Problems										602	3	86	
Demography (Graduate)										807	2	1	
Research (Graduate)										816	6	1	
Public-health Laboratory (Graduate)										815	4	1	
Science Nursing				506	4	1							
Science Nursing				510	3	1							
Science Nursing	514	16	1										

ROMANCE LANGUAGES

FRENCH

Elementary French	401	5	39	401	5	285	401	5	128	401	5	82	
Elementary French	402	5	18	402	5	82	402	5	213	402	5	119	
Intermediate French	403	5	19	403	5	296	403	5	90	403	5	147	
Intermediate French	404	5	6	404	5	65	404	5	188	404	5	70	
Elementary Course in Reading of French	405	5	18	405	5	39				405	5	11	
Elementary Course in Reading of French	406						406	5	20				
Advanced French	407	5	5	407	5	49							
French Literature of Seventeenth Century	601	5		601	5	39				601	5	34	
French Literature of Seventeenth Century	602	5	14				602	5	27				
French Literature of Nineteenth Century	603			603	5	50				603	5	43	
French Literature of Nineteenth Century	604						604	5	55				
French Literature of Fifteenth and Sixteenth Centuries	605			605	3	15							
Comedy of Manners in Nineteenth Century	611	3					611	3	16				
Comedy of Manners in Nineteenth Century	612	3	4							612	3	20	
History of French Literature	613	3		613	3	5							
History of French Literature	614	3	1				613	3	9				
Elementary French Composition and Conversation	621	5	13	621	5	27	621	5	48	621	5	59	
The Teaching of French	622	3	10							622	3	39	
Intermediate French Composition and Conversation	623	3	5							623	3	35	
French Phonetics	627	3	6	627	3	22							
Review of French Syntax	628	3	6				628	3	37				

GRADUATE

The French Romantic Novel	807	3	2										
The French Romantic Drama				808	3	9							
Old French Literature							813	3	6				
Old French Literature										814	3	4	

ITALIAN

Elementary Italian	401	5	Not given				401	5	57				
Elementary Italian	402	5	Not given							402	5	46	

252

THE OHIO STATE UNIVERSITY

Comparative School Administration in United States			
611	3	15	611
613	3	58	613
614	3	17	614
615	3	43	615
617	2-4	13	617
802	2-5	65	802
803	2-5	2	803
805	3	2	805

SOCIOLOGY

401	5	72	401
402	5	35	402
500	2	23	500

601	4	61	601
605	4	36	605
606	4	36	606
607	4	60	607
617	4	41	617
625	3	56	625
627	3	17	627

635	3	45	635
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636	3	25	636
637	3	20	637

645	4	54	645
646	4	33	646
655	4	48	655

655	3	32	655
685	2	1	685
801	2	5	801
811	3	4	811
831	4	4	831
832	4	4	832

SOILS

401	5	5	401
403	3	0	403
601	3	11	601
602	5	6	602
603	3	6	603
604	5	0	604

611	3	15	611	3	5	614	3	16	615	3	11
613	3	58	613	3	5	614	3	16	615	3	11
614	3	17	614	3	16	619	2-4	32	620	2-4	26
615	3	43	615	3	35	622	2	10	623	2	23
617	2-4	13	617	2-4	8	802	2-5	12	802	2-5	11
802	2-5	65	802	2-5	12	803	2-5	2	803	2-5	27
803	2-5	2	803	2-5	2	806	3	2	807	3	6
805	3	2	805	3	2						
401	5	72	401	5	265	401	5	162	401	5	164
402	5	35	402	5	104	402	5	118	402	5	131
500	2	23	500	2	23	500	2	48			
601	4	61	601	4	61						
605	4	36	605	4	36						
606	4	36	606	4	36						
607	4	60	607	4	60						
617	4	41	617	4	41						
625	3	56	625	3	56						
627	3	17	627	3	17						
635	3	45	635	3	45						
636	3	25	636	3	25						
637	3	20	637	3	20						
645	4	54	645	4	54						
646	4	33	646	4	33						
655	4	48	655	4	48						
656	4	47	656	4	47						
667	3	47	667	3	47						
803	2	4	803	2	4						
815	4	4	815	4	4						
823	2	2	823	2	2						
831	4	4	831	4	4						
832	4	4	832	4	4						
401	5	5	401	5	5						
402	3	4	402	3	4						
601	3	11	601	3	11						
602	5	6	602	5	6						
603	3	6	603	3	6						
604	5	0	604	5	0						

THE WORK OF INSTRUCTORS—1922-1923—Continued

254

THE OHIO STATE UNIVERSITY

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections
Bio-Chemical Analysis of Soils.....										605	3	0
Research in Soils	801	5	0	801	5	3	801	5	3	801	5	5
Soil Seminary	802	1	0	802	1	3	802	1	3	802	1	3
Winter Course Soils—Soil Management.....								4	41			
Winter Course Soils—Fertilizers and Lime-stone								4	25			
SURGERY												
Minor Surgery										601	3	93
Surgery, General				602	5	53	603	5	53	604	5	53
Gynecology										605	3	53
Orthopedic Surgery							606	1	48			
Conference Clinics				607	1	48	608	1	48	609	1	48
Operative Surgery				610	2	48						
Roentgenology							611	2	28			
Ward Clinics in Surgery.....				601	2	48	602	2	48	603	2	48
VOCATIONAL EDUCATION												
Organization of Vocational Education.....	601	3	2									
Problems in Part-time Education.....	602	3	4	602	3	6						
Principles and Problems of Vocational Education										603	3	28
Fundamentals of Vocational Teaching.....							604	5	12			
*Principles and Methods of Vocational Training	481	2	5									
Professor D. J. MacDonald												
Dayton—Fundamentals of Vocational Teaching			8									
Dayton—Practice Teaching.....			24									
Toledo—Fundamentals of Vocational Teaching			25									
Toledo—Fundamentals of Vocational Teaching			12									
Akron—Problems of Part-time Education.....			8									
Columbus—Training Leaders for Foremanship												

* Course 481, Principles and Methods of Vocational Training, which had been listed previous to the establishment of the Vocational Education Department and for which students had already registered, was given by Professor MacDonald during the second term of the summer quarter in accordance with Dr. Bode's request. Content of Course 601, Organization of Vocational Education, was substituted for Course 481, Principles and Methods of Vocational Education.

THE WORK OF INSTRUCTORS—1922-1923—Continued

256

COURSE SUBJECT	SUMMER QUARTER			AUTUMN QUARTER			WINTER QUARTER			SPRING QUARTER		
	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	Total No. of Students in All Sections	Course No.	Credit Hours	All Sections Total No. of Students in
Medical and Surgical Clinics.....	469	3	5	.....	.....	.....	.....	.....	.....	469	3	21
Medical and Surgical Clinics.....	.....	.....	.....	470	3	26	471	3	24	472	3	26
Special Surgery .....	.....	.....	.....	474	4	26	475	4	26	476	4	26
Physical Diagnosis .....	.....	.....	.....	473	3	22	.....	.....	.....	.....	.....	.....
*Operative Practice .....	.....	.....	.....	477	1	23	.....	.....	.....	.....	.....	.....
Diseases of Small Animals .....	.....	.....	.....	463	3	18	464	4	18	.....	.....	.....
Horseshoeing .....	.....	.....	.....	.....	.....	.....	465	3	18	.....	.....	.....
Materia Medica and Therapeutics.....	.....	.....	.....	.....	.....	.....	461	4	19	462	4	18
Hygiene and Sanitation .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	479	3	27
General Surgery .....	.....	.....	.....	466	4	15	.....	.....	.....	442	4	16
Sporadic Diseases of Large Animals.....	.....	.....	.....	.....	.....	.....	441	4	15	.....	.....	.....
Infectious Diseases of Large Animals.....	.....	.....	.....	443	4	27	444	4	27	.....	.....	.....
Obstetrics .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	478	4	24
Veterinary Medicine for Agriculture Students.....	.....	.....	.....	451	3	21	452	3	52	453	3	43
Winter Course in Agriculture (8 weeks).....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pathological Technique	821	2	1	821	5	3	821	5	1	821	5	3
Special Anatomical Pathology.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	822	5	1
Special Bovine Pathology .....	.....	.....	.....	823	5	3	823	5	1	823	5	1
Special Pathology Problems.....	.....	.....	.....	.....	.....	.....	824	5	1	824	5	2
* Electives .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ZOOLOGY AND ENTOMOLOGY												
Elementary Zoology	401	5	44	401	5	403	401	5	111	401	5	201
Elementary Zoology	402	5	10	.....	.....	.....	402	5	280	402	5	80
General Principles of Heredity .....	.....	.....	.....	403	5	38	.....	.....	.....	403	5	112
Advanced Zoology of Invertebrates.....	.....	.....	.....	405	5	6	406	5	5	.....	.....	.....
Animal Microtechnic .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	407	3	8
Evolution .....	.....	.....	.....	409	5	14	410	5	11	.....	.....	.....
Advanced Studies in Animal Heredity.....	.....	.....	.....	601	3	2	.....	.....	.....	.....	.....	.....
Animal Ecology .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	604	5	3
Minor Investigations	610	3 or 5	6	611	3 or 5	6	612	3 or 5	6	613	3 or 5	7
Seminary in Zoology .....	.....	.....	.....	801	1	20	802	1	19	803	1	19
Invertebrate Zoology .....	.....	.....	.....	805	5	7	806	5	7	807	5	6
Research Work	810	3-10	6	811	3-10	14	812	3-10	14	813	3-10	17
Economic Entomology	451	5	19	451	5	68	.....	.....	.....	451	5	78
Economic Entomology	452	5	7	.....	.....	.....	452	5	15	.....	.....	.....

Advanced Entomology .....	.....	.....	.....	651	5	4	652	5	4	.....	.....	.....
Entomological Literature and Principles of Taxonomy .....	.....	.....	.....	.....	.....	.....	456	5	5	.....	.....	.....
Elementary Entomology .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	457	5	12
Insect Control .....	.....	.....	.....	653	5	9	654	5	10	.....	.....	.....
Medical and Veterinary Entomology.....	.....	.....	.....	655	5	5	.....	.....	.....	.....	.....	.....
Morphology and Development of Insects.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	656	5	7

APPENDIX V—Concluded

	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923					
Master of Science				1								1	1	2	2				3	3	2	3	3	2	1								1	8	6	14	15	25	32	19	8	29	36	44	27						
Master of Science (Agriculture)																		1	2		1									2	1	3	3	1																	
Master of Science (Dom. Sc.)																												1							1																
Master of Science (H. F.)																				1	1	1											1																		
Master of Science in public health																																							3					1	1						
Doctor of Philosophy	1												1												1		1	1		1		2		1	5	1	2	1	3	11	9	4	7	8	13	19					
Doctor of Science													1					1		1																															
Doctor of Dental Surgery																																																			
Doctor of Medicine																																																			
Juris Doctor																																																			
Bachelor of Laws															9	18	15	16	6	23	22	21	25	17	26	20	11	15	17	26	15	16	22	10	19	18	19	18	24	17	11										
Master of Laws															2	4	2		6								2	3	1																						
Total	6	7	9	8	9	11	12	16	18	24	28	26	30	36	61	79	70	112	118	135	126	99	137	135	141	17	194	209	225	249	287	333	370	422	501	515	649	793	902	941	565	470	801	970	1054	1255					
Degrees conferred during the year															1													6	0	5	6	5	15																		
Totals															80													200	209	230	255	292	348																		

* Statistics given prior to 1904 covered only the degrees granted at the Commencement.

APPENDIX VI

SHOWING THE NUMBER OF STUDENTS IN THE GENERAL, TECHNICAL, AND PROFESSIONAL COURSES

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
General Courses (College of Arts).....	137	151	194	245	256	322	327	358	371	419	439	403	490	496	490	551	572	630	714
Technical Courses (other Colleges, except Law).....	166	259	381	368	424	453	453	511	541	603	771	888	1039	1135	1129	1262	1280	1436	1626
Professional Courses (Colleges of Law).....	...	55	67	72	65	100	132	148	191	201	220	188	166	171	179	162	153	138	132
*Graduate Students and Summer School.....	2	...	...	1	...	94	97	133	75	45	51	49	62	108	54	240	339	379	458
**Summer School (Shopwork).....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	74	75	81	80	90
Lake Laboratory (Summer).....	...	...	...	...	...	...	...	...	...	...	...	19	...	23	32	26	19	26	32
Totals.....	305	465	642	686	745	969	1009	1150	1178	1268	1481	1547	1757	1933	1958	2316	2444	2689	3052
Names counted twice.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	159	167	216	258
Net total.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2157	2277	2473	2794

APPENDIX VI—Concluded

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
General Courses (Colleges of Arts, Commerce and Journalism, and Education).....	845	865	962	1009	1139	1494	1820	2198	2220	2558	3422	3802	4147	4493
Technical Courses (Other Colleges Except Dentistry, Homeopathic Medicine, Law, and Medicine).....	1643	1780	1979	2106	2392	2373	2491	2398	1884	2129	2733	3003	2982	2878
Professional Courses (Colleges of Dentistry, Homeopathic Medicine, Law, and Medicine) ..	181	170	185	198	187	615	556	514	384	300	718	611	688	724
Graduate Courses (Graduate School).....	96	70	97	128	133	185	244	233	161	143	208	269	382	488
Summer Session	606	617	738	575	671	926	1010	1166	918	909	1229	1391	1543	1925
Lake Laboratory (Summer).....	36	22	28	25	32	14	19	15	14	2	11	18	19	17
Winter Courses	159	183	273	227	203	187	173	187	119	121	178	86	121	87
Total	3566	3707	4262	4268	4757	5794	6313	6711	5700	6162	8499	9180	9882	10612
Names counted twice.....	291	268	334	299	322	462	491	523	550	437	682	867	1032	1117
Net Total	3275	3439	3928	3969	4435	5332	5822	6188	5150	5725	7817	8313	8850	9495

* Until 1896 graduate students have been included in the first three classes.

** Until 1904 summer term students in shopwork have been included with graduate students.

APPENDIX VII

SHOWING DEGREES AND CERTIFICATES GRANTED DURING YEAR ENDING JUNE 30, 1923

GRADUATE SCHOOL

Dean: WILLIAM MCPHERSON

DOCTOR OF PHILOSOPHY

Ralph Vandervort Bangham, A.B. (Wilmington College), S.B., A.M. (Haverford College)	Wilmington
Erwin Allen Esper, B.A., M.A.	Columbus
Daniel Luther Evans, B.A., M.A.	Columbus
Thomas Lee Guyton, B.Sc. in Agr., M.Sc.	Winterset
Albert Hartzell, B.S., M.S. in Agr. (Cornell University)	Ames, Iowa
Joseph Frederic Haskins, B.S. (Denison University), M.Sc.	Lancaster
Elmer Herman Haux, Chem. Engr. (University of Virginia), M.Sc. (University of Pittsburgh)	Newark, N. J.
Carl Waldo Holl, A.B. (Manchester College), M.Sc.	North Canton
Edward Charles Hytree, B.S. (Ohio Wesleyan University), M.A.	Delaware
Walter Charles Kraatz, B.A. (University of Wisconsin), M.A.	Columbus
Frank Heidtman Lathrop, B.S. in Agr. (Clemson College), M.Sc.	Orangeburg, S. C.
Clare S. Martin, B.Sc. in For., M.Sc.	Columbus
Gerard Gordon Osterhof, A.B. (Hope College), M.Sc.	Thayer, Ind.
Gordon Derby Patterson, B.S. (Allegheny College), M.Sc.	Meadville, Pa.
Johannes Theodorus Potgieter, B.Sc., M.Sc. (University of Stellenbosch)	Orange Free State, South Africa
Ying Lam Pun, A.B. (Leland Stanford University), M.Sc.	Kwai Ping City, China
James Thomas Robson, B.Ch.E., M.Sc.	Elyria
Lawrence Edward Stout, A.B. (DePauw University), M.Sc.	Greencastle, Ind.
Lewis Hanford Tiffany, S.B. (University of Chicago), M.Sc.	Columbus
(Nineteen candidates)	

MASTER OF ARTS

Louise Herrick Abbott, B.A.	Columbus
Eber J. Arnold, B.Sc. (Wilmington College)	Jamestown
Stanley Stephens Bash, B.Ph. (Denison University)	Utica
Elizabeth Breck Bigelow, B.Sc. (Simmons College)	Columbus
Lauren O. Bitler, B.S. in Edu. (Ohio University)	Amanda
William James Blackburn, B.Sc. in Social Service	Columbus
Reuben Boomershine, A.B. (Manchester College)	Brookville
Edison Louis Bowers, A.B. (Heidelberg University)	Massillon
Dorothy Louise Buck, B.Sc. in Edu.	Columbus
Marie Louise Bumpas, B.S. (College of Industrial Arts, Denton, Texas)	Dallas, Texas
Lela Alberta Dischinger, A.B. (University of Michigan)	Port Clinton
Leland Nathan Drake, B.Ped. (Ohio Northern University), B.Sc. in Edu.	Columbus
Alden Hayes Emery, A.B. (Oberlin College)	Sylvania
Ruth Aspinwall Fisher, B.A. (New York State College for Teachers)	Columbus
Mary Helen Francis Fretts, B.A. (Ohio Wesleyan University)	Utica
James Fitz-James Fullington, B.A.	Columbus
Audrey Margaret Golladay, B.Sc. in Edu.	Columbus
Frank Allen Grismer, B.A. (DePauw University)	Greencastle, Ind.
Chandra Mohan Gupta, B.A. (St. John's College, India)	Lucknow, India
George Dwight Haskell, B.A. (Amherst College)	Brooklyn, N. Y.
Henry Bohn Hass, B.A. (Ohio Wesleyan University)	Mingo Junction
Harlan Henthorne Hatcher, B.A.	Columbus
Rudolph Herman Helle, B.A. (Capital University)	Columbus
Albert Lee Henderson, B.Sc. in Edu.	Columbus
Donald Jay Hornberger, A.B. (University of Michigan)	Delaware

Glen Thomas Howe, B.S. (Ohio Northern University)	Strongsville
Arthur Wright Jones, Ph. B. (Denison University)	Granville
Deane Brewster Judd, B.A.	Columbus
Berthe Couch Koch, B.A.	Columbus
Harlan Clifford Koch, A.B. (Ohio University)	Mount Vernon
John Life La Monte, B.A.	Columbus
Milton Oliver Lee, B.A.	Dorset
Bertha Alwilda Lively, B.S. in Edu. (Ohio University)	New Mansfield
William Negele Loucks, A.B. (Heidelberg University)	Tiffin
Wilbur Hoyt Lowden, B.A.	Columbus
Bernard Sandler Meyer, B.A.	Columbus
George Ambrose Parkinson, B.Sc. in Edu.	Worthington
Virginia Parry, B.A.	Columbus
Roxy Pearl Rauch, A.B. (Miami University)	Venedocia
Samuel Renshaw, A.B. (Ohio University)	Kalamazoo, Mich.
Elizabeth Helen Richey, B.S. (Carnegie Institute of Technology)	Seneca
Wadrow Chester Rohleder, B.A.	Columbus
John Lawyer Rose, B.S. (Denison University)	Newark
Myrtle Scholes Roubush, Ph.B. (Bethany College)	Johnstown, Pa.
Emmett Bismarck Saunders, B.Sc. in Agr.	Eagle, W. Va.
Diathea Centura Scholl, B.A., B.Sc. in Edu.	Chillicothe
Ernest George Schwiebert, A.B. (Capital University)	Deshler
Daniel Martin Shonting, B.Sc. in Bus. Adm.	Lancaster
Rheva Ott Shryock, B.Sc. in Edu. (University of Pennsylvania)	Columbus
Louis Edwin Smart, B.A.	Columbus
Earl Bennett South, B.S. in Edu. (Ohio University)	Casstown
Gordon George Starr, B.A. (Wilmington College)	Shandon
Willie Stephens, B.A. (University of Tennessee)	Pikeville, Tenn.
Dwight Hull Stevenson, B.A. (Park College)	Kansas City, Mo.
Alfred William Stewart, B.S. (Ohio University)	Hilliards
Lela May Taylor, B.Sc. in Edu.	Columbus
Hazel Birdells Thrush, B.A., B.Sc. in Edu.	Columbus
Margaret Ethel Tipton, Ph. B. (Denison University)	Columbus
Zura Milton Walter, B.Sc. in Edu.	Columbus
Florence Estella White, B.Sc. in Edu.	Grove City
Virgil Willit, A.B. (Otterbein College)	Hicksville
Earl DeWitt Wilson, A.B. (Capital University)	Roseville

(Sixty-two candidates)

MASTER OF SCIENCE

Arthur Marshall Brant, B.Ch.E.	Columbus
Donald Bane Brooks, B.Ch.E.	Columbus
James Yuen Chan, B.E.M.	Canton, China
Paul Hazlett Charlton, B.A., M.D.	Columbus
Homer Leslie Cupples, B.Ch.E.	Massillon
John Sumner Cutler, B.S. (Michigan Agricultural College)	Grass Lake, Mich.
Linden Forest Edwards, B.A.	Reynoldsburg
Charles Henry Fravel, B.Sc. in Agr.	Gahanna
Guy C. Fromm, B.S. (Heidelberg University)	Columbus
Benjamin Bee Harris, B.S. (South Carolina Agricultural and Mechanical College)	Denton, Texas
Fred Andrews Hitchcock, Ph.B. (Municipal University of Akron)	Columbus
Sylvester Sherman Humphrey, B.Sc. in Agr.	Zanesville
Fanny Helen Kenyon, A.B. (The Western College for Women)	Wauseon
Robert Maynard King, B.A. (University of Texas)	Austin, Texas
James Harvey McCloy, B.S. (Purdue University)	Westerville
Marion Thomas Meyers, B.Sc. in Agr.	Hillsboro
*Wesley Harris Miller	Akron
Charles Frederic Monroe, B.Sc. in Agr.	Wooster
Cloud Revere Neiswander, B.A.	Rawson
Sobey Okuyama, D.V.M.	Yamagata, Japan

Edna Louise Patterson, B.S. (Denison University)	Columbus
John Worthington Price, B.Sc. in Agr.	Plain City
Karl Denver Price, B.E.E.	Columbus
William Charles Skelley, B.Sc. in Agr.	Columbus
Van Bauman Teach, B.A., B.E.E.	Columbus
Charles Bailey Upp, B.E.E.	Greenfield
Raleigh Pearl Ward, B.A.	Columbus

(Twenty-seven candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

DOCTOR OF PHILOSOPHY

Calvin Adam Buehler, B.Ch.E., M.Sc.	Stone Creek
Merle Leroy Dundon, B.S. (Mount Union College), M.Sc.	New Milford
Lorin Beryl Sebrell, B.S. (Mount Union College), M.Sc.	Alliance

(Three candidates)

MASTER OF ARTS

Ernest Ray Beck, B.S. in Edu. (Ohio University)	Junction City
Lawrence Edmund Clark, A.B. (Drake University)	Columbus
Howard Ely, A.B. (Defiance College)	Pataskala
Paul Randolph Farnsworth, B.A.	Sandusky
John Hughes Griffith, A.B. (Miami University)	Venedocia
Elizabeth Murphy Hartinger, A.B. (Ohio University)	Columbus
Robert James Havighurst, B.A. (Ohio Wesleyan University)	Springfield, Ill.
Cloyce Avery Houser, B.S. (Ohio Northern University)	Versailles
Paquan Solieu Hsu, B.Sc. in C.E. (Imperial University of Shanghai)	Shanghai, China
Bert Roberts Jones, A.B. (Mount Union College)	Youngstown
Henry Charles Kohler, B.Sc. in Edu.	Dayton
Catherine Lens, A.B. (Miami University)	Kenton
Helen Robey Lumley, B.Sc. in Edu.	Columbus
Pearlie Cecil McQuain, A.B. (West Virginia Wesleyan College)	Pine Grove, W. Va.
Daise C. Merriman, B.A. (Ohio Wesleyan University)	Columbus
Florence Ewalt Moore, A.B. (The Western College for Women)	Westerville
Clarence Flavel Moses, B.Sc. in Agr.	Columbus
Marguerite Gregory Oliver, A.B. (University of California)	Columbus
Lester Day Parker, B.S. (Ohio Wesleyan University)	Cedarville
Elgar Grant Pumfrey, A.B. (Otterbein College), LL.B. (Cincinnati Law School)	Dayton
Leslie Rosemond, A.B. (Smith College)	Columbus
Vernon T. Sheets, B.Ped., B.S. (Ohio Northern University)	Powell
Nancy Elizabeth Sidwell, Ph.B. (Wooster College)	St. Clairsville
Harley Clay Skinner, B.S. in Edu. (Ohio University)	Toboso
Henry Luther Stewart, B.S. (Waynesburg College)	Marysville
Edward Schaad Stimson, B.A., B.Sc. in Bus. Adm.	Columbus
Edith May Stoker, B.Sc. in Edu.	St. Marys
Howard Laurie Weir, A.B. (Maryville College)	Cowan
Florence Jane Williamson, A.B. (Cedarville College)	Cedarville

(Twenty-nine candidates)

MASTER OF SCIENCE

Harold N. Barham, A.B. (Bethany College)	Prairie View, Kan.
Jacob Work Bulger, B.S. in Agr. (South Dakota State College)	Brookings, S. D.
Parry Raymond Jones, B.S. (Denison University)	Granville
Reginald Franklin Jukes, B.S. (University of Toronto)	Amherstburg, Can.
William McLennan Morgan, B.Sc. in Chem. (University of Illinois)	Norwood
Henry Francis Palmer, Jr., A.B. (Dartmouth College)	Middleboro, Mass.
Caroline Lois Rea, A.B. (Allegheny College)	North East, Pa.
Carlton Glen Tener, B.Sc. in Edu. (Miami University)	Sinking Spring
Donald Statler Villars, B.A. (Wilmington College)	Wilmington

(Nine candidates)

CANDIDATES FOR TWO DEGREES

Wesley Harris Miller—Master of Science, Bachelor of Engineering.....	Akron
Mahlon Gilbert Barnes—Bachelor of Science in Agriculture, Bachelor of Science in Business Administration	Paulding
Margaret Emeline Foster—Bachelor of Arts, Bachelor of Science in Home Economics ..	Columbus
Elsie Maybelle Friebe—Bachelor of Arts, Bachelor of Science in Home Economics ..	Columbus
Raymond H. Moffett—Bachelor of Arts, Bachelor of Science in Business Administration	Woodsfield
Gust Daniel Rubertino—Bachelor of Arts, Bachelor of Science in Business Administration	South Euclid
Vera Regina Baxter—Bachelor of Arts, Bachelor of Science in Education.....	Delphos
Ursula Ruth Bracken—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Mary Etha Culverhouse—Bachelor of Arts, Bachelor of Science in Education.....	Cadiz
Helen Margaret Ebinger—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Mary Adella Hart—Bachelor of Arts, Bachelor of Science in Education.....	Sharpsburg
Florence Edna Hill—Bachelor of Arts, Bachelor of Science in Education.....	Canton
Alice Virginia Howard—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Thelma Luberta Judy—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Charlotte Elizabeth McConaughy—Bachelor of Arts, Bachelor of Science in Education	Bridgeport
Faith Melsheimer—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Alice Elizabeth Myers—Bachelor of Arts, Bachelor of Science in Education.....	Chillicothe
Dorothy Frances Porter—Bachelor of Arts, Bachelor of Science in Education.....	Steubenville
Mabel Varie Rogers—Bachelor of Arts, Bachelor of Science in Education.....	Waynesfield
Ruth Lavon Schwartz—Bachelor of Arts, Bachelor of Science in Education.....	Kenton
Lucille Marie Selbach—Bachelor of Arts, Bachelor of Science in Education.....	Columbus
Lillian Kirkwood Smith—Bachelor of Arts, Bachelor of Science in Education.....	Cadiz
Elizabeth Olive Taylor—Bachelor of Arts, Bachelor of Science in Education.....	Zanesville
Wilma Jeane Thompson—Bachelor of Arts, Bachelor of Science in Education.....	Steubenville
Elizabeth Wood—Bachelor of Arts, Bachelor of Science in Education.....	London
Russell Mertens Krob—Bachelor of Architecture, Bachelor of Architectural Engineering	Columbus
Allan James Smith—Bachelor of Electrical Engineering, Bachelor of Mechanical Engineering	Columbus
Ralph Ellsworth Weaver—Bachelor of Arts, Bachelor of Laws.....	Sugar Creek
Louis Harry Mendelson—Bachelor of Science, Doctor of Medicine.....	Columbus

(Twenty-nine candidates)

COLLEGE OF AGRICULTURE

Dean: ALFRED VIVIAN

BACHELOR OF SCIENCE IN AGRICULTURE

Elroy Strawn Albright.....	Irwin, Pa.
Wayne La Rue Balliet.....	Perrysville
Irwin Bamberger.....	Cincinnati
Elwood Paul Bangham.....	Wilmington
Roderick Dudley Barden.....	Shreve
*Mahlon Gilbert Barnes.....	Paulding
Homer Hensel Barnhart.....	Canal Winchester
Theodore Ora Bascom.....	Kinaman
Leonard David Baver.....	Miamisburg
Arthur Hamilton Bell.....	Zanesville
Leland Charles Bingham.....	New Milford
Nelson Eldred Bingham.....	New Milford
Harvey Frank Blake.....	Lost Creek, W. Va.
Nile McKinley Border.....	Strasburg
Robert Sater Brown.....	Harrison

William Joseph Brown.....	Morristown
Virgil Davidson Burris.....	Columbus
Winfred Obert Christopher.....	Cumberland
James Lawrence Clark.....	Columbus
Margaret Estelle Closs.....	Cincinnati
Hugh Miller Colville.....	St. Louisville
William Henri Coulson.....	Mason
William Hunter Craig.....	Cleveland
Damon Drushel Cranz.....	Ira
Clifford Rex Crum.....	Shelby
Lucile Helen Davidson.....	Columbus
Van Banks De Lashmutt, Jr.	Columbus
Virgil Raymond Dent.....	Ontario
Harvey George Dickerson.....	Columbus
Carlos Orville Dickey.....	Dresden
Karl William Dittmer.....	Wapakoneta
Matthias Corwin Drake.....	Lebanon
Clark Durbin	Bellville
Walter Alvin Eickelberg.....	Cleveland
William Ellis, Jr.	West Toledo
Charles Orris Esselbaugh.....	Fostoria
John Elias Everett.....	Huron
William Kenneth Ewing.....	Hebron
Paul Preiss Fankhauser.....	Powhatan Point
Russell Trexlar Floyd.....	Quaker City
Frederick Maynard Freshley.....	Mentor
Pramatha Nath Ganguli.....	Bevares City, India
Carl Norton Gibboney.....	Bradford
Alfred Glendenning.....	Dover
Earle Milton Green.....	East Liberty
Paul Edward Haag.....	Youngstown
Gordon Asplin Hall.....	North Olmsted
Ellis Sibley Halley.....	Gallipolis
Lowell Wilson Hancock.....	Williamsburg
Hiram Wayne Harshfield.....	East Liberty
Byron Leroy Hartsel.....	Haviland
Calvin Heilman	Kenton
Fred Louis Helm.....	Columbus
Ralph Ansel Hinman.....	Ravenna
William Howard Huff, Ph.B., B.Ped. (West Lafayette College).....	Fresno
Arthur Joseph Irvin.....	Burbank
William Add Irvin.....	Gratiot
William Marion Jackson.....	Casstown
Orin Henry Leigh James.....	Hamilton
Frederick Wyland Johnson.....	Columbus
Curtis Nichols Jones.....	Granville
Lewis Zeno Kent.....	Chagrin Falls
Elmer George Kershner.....	Bloomville
Bertram Hershberg Kleinmaier.....	Marion
Troy Emerson Klepinger.....	Dayton
Luther Henry Koontz.....	New Carlisle
William Russell Kramer.....	Chillicothe
Robert Edward Kreidler.....	Warren
S. Waldo Krichbaum.....	Nevada
Walter Roland Krill.....	Edgerton
Isaac Sappe Lane, A.B. (Wilberforce University).....	Dayton
John Carleton Langmead.....	Cleveland
Walter Jennings Leppert, B.A.	Hilliards
Donald Phillips Limber.....	Columbus
George Gilbert Ludwig.....	Terrace Park
Monroe McCown	Proctorville

Stewart Petty McReynolds.....	Clarksburg, W. Va.
Clarence Alson MacDonald.....	Columbus
James Albert Malick.....	Celina
Homer Wilder Marble.....	Conneaut
Ralph Joseph Matson.....	Middletown
Paul Herman Mautz.....	Marion
Virgil Manenne May.....	La Fayette
Floyd James Miller.....	Chardon
Mack Levi Miller.....	Malvern
Russell Wells Miller.....	Sunbury
James Walter Minarik.....	Novelty
Hobart Lee Moore.....	Nellie
Ben Donald Morgan.....	Middletown
Maurice Richard Myers.....	Archbold
Charles August Nicholson.....	Cuzco, Ind.
Ernest Donald Noffsinger.....	Bladensburg
Wesley Herman Parman.....	Toledo
James Marion Patchell.....	Batavia
Williard George Podlich.....	Grafton
Earl McClellan Prather.....	Felicity
James Harris Reed.....	Apple Creek
Herman Walter Reusch.....	Hudson
Chester Lee Riegel.....	Amanda
David Cecil Rife.....	Cedarville
Clyde Francis Roberts.....	Cygnets
Clifford Watkin Robinson.....	Spencer
Neil Snow Robinson.....	Mansfield
Bayard Allen Rouch.....	Andrews, Ind.
Ralph Koars Rowalt.....	Cincinnati
Baldev Singh Saigal.....	Lahore, India
Garratt Bradford Sargent.....	New Philadelphia
Thomas Rudd Saylor.....	Xenia
John Robert Schofield.....	Chesterhill
Mark Richards Shanafelt.....	Kent
Harold Millikin Sherwood.....	Plain City
John Leslie Shriver.....	Sistersville, W. Va.
Harold Evans Slager.....	Circleville
Floyd Franklin Smith.....	Brunswick
Franklin Scott Smith.....	Oakley
Joseph Samuel Smith.....	Groveport
Horen Soghikian, A.B. (Berberian College, Constantinople).....	Columbus
William Stanley Speed.....	Cleveland
Carl Marion Stebbins.....	Dayton
Frank John Stebbins.....	Dayton
Harry Walter Stegman.....	Elyria
William Frederick Stevens.....	North Fairfield
Charles William Stoneburner.....	Salesville
Wilbur Collin Swagler.....	Scenery Hill, Pa.
Archie Newton Tissot.....	Winchester
Dwight Wilbur Titterington.....	Chagrin Falls
Eugene Field Townsend.....	Celina
Ervin Jacob Utz.....	New Washington
Harvey Ray Wagner.....	Greenville
Merle Edwin Wagoner.....	Ravenna
Roscoe Wise Wallace.....	New Carlisle
Warren Ganz Weiler.....	Fremont
Harry Howard Weiser.....	Delaware
John Robert White, B.A. (Western Reserve University).....	Cleveland
William Mark Wilcox.....	Powell
Leonard Lyman Wolcott.....	West Farmington
Gerald Stafford Wright.....	Granville

Lamar Alva Young.....	Mineral Ridge
Paul Aldo Young.....	Medina
Earl E. Zeisert.....	Brookville

(One hundred and forty candidates)

BACHELOR OF SCIENCE IN HOME ECONOMICS

Ethel May Anderson.....	Bellaire
Mary Alice Ball.....	Mount Vernon
Dorothy Fisher Basore.....	Columbus
Helen Shoemaker Cahill.....	Napoleon
Dorothy Hartzell Caldwell.....	Pataskala
Helen Carpenter.....	Plain City
Elva Leona Clark.....	Harrisburg
Angelyn Elizabeth Conrad.....	Columbus
Mary Florence Devitt.....	McConnelsville
Elizabeth Douglas.....	Sandusky
Dorothy Paullin Fenton.....	Dayton
*Margaret Emeline Foster.....	Columbus
*Elsie Maybelle Friebe.....	Columbus
Ruth Joanne Giesen.....	Middleport
Marion Etta Griffith.....	Columbus
Edith Miriam Hawkins.....	Xenia
Esther Marjorie Howenstine.....	Hicksville
LeMonne Ervin Jackson.....	Portsmouth
Lucile Koch.....	Brookville
Eloise Lydia Krause.....	Valley City
Elizabeth Hill Leech.....	Steubenville
Doris Irene Linebaugh.....	Grove City
Sara Emily Long.....	Newark
Helen Leona Madden.....	Groveport
Myrtle Minnie Maibauer.....	Cleveland
Phyllis Lucile Mendenhall.....	Greenville
Lois Edna Michel.....	Bethesda
Elizabeth Miller.....	Steubenville
Helen Milligan.....	Columbus
Corinne Miller Mitchell.....	Spencerville
Dorothy Wilhelmina Newton.....	Oswego, N. Y.
Helen Louise Nice.....	Columbus
Mildred Elenora Nothstine.....	Circleville
Eunice Viola Pepsico.....	Chillicothe
Ednora Mae Prillerman.....	Institute, W. Va.
Ottillie Esther Rohe.....	Columbus
Catherine Elizabeth Rowland.....	Columbus
Gertrude Slater.....	Columbus
Martha Stevens.....	Plain City
Margaret Jessie Tanner.....	Columbus
Helen Frances Tillson.....	Willard
Mary Valentine.....	Le Roy
Ruth Marianne Walker.....	Gambier
Mildred Frances Watts.....	Westerville
Oma Whiton Wells.....	Alice
Helen Frances Williams.....	Worthington
Lillian Clara Ziegfeld.....	Columbus

(Forty-seven candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN AGRICULTURE

As of the Class of 1922

Peter Berman.....	New York City
Fred Raymond Davis.....	Belle Valley

Homer V. Foster.....	Thornville
Julia Wilhelmina Jaster.....	Youngstown
Lyle Brown Leonard.....	Columbus
Elmore Rudolf Niehaus.....	Cincinnati
Paul Brown Norton.....	Cincinnati
William Morrison Parrish.....	Rosslyn Farms, Pa.
Paul Hedges Startzman.....	De Graff

(Nine candidates)

As of the Class of 1923

Raybernal Bross.....	Danville
Howard Dewey Gaeb.....	Norwood
Emerson McKinley George.....	Delta
George Cloise Gray.....	Sunbury
Thomas Wilford Lawler.....	Bellevue
Cloyce LeMoine Parish.....	Richwood
Arthur Henry Sandrock.....	Elyria
Charles Leonard Stevens.....	Detroit, Mich.
Francis Pittenger Taylor.....	Dell Roy

(Nine candidates)

BACHELOR OF SCIENCE IN HOME ECONOMICS

As of the Class of 1922

Bernice Dunkle Byers.....	Columbus
Leona Mildred Ellsworth.....	Willoughby

(Two candidates)

COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCE

Dean: WILLIAM EDWARDS HENDERSON

BACHELOR OF ARTS

Edward Robert Abernathy.....	Columbus
Ralph Benjamin Alspaugh.....	Amanda
Elizabeth Craig Arrowsmith.....	Hicksville
Elizabeth Grace Ashcraft.....	Mount Vernon
Dean Wise Axline (with distinction).....	Findlay
Mildred Louise Baker.....	Columbus
*Vera Regina Baxter.....	Delphos
Berry Gold Bayley.....	Riverside, Cal.
Joseph Haradon Beatty.....	Columbus
Frances Josephine Beaver.....	Norwalk
Grace Henrietta Bell.....	Cambridge
Melvin Robert Bergman.....	Bellevue
Ava Elizabeth Billington.....	Painesville
Dora Cecelia Binckley.....	Columbus
Hilda Loeb Blose.....	Columbus
*Ursula Ruth Bracken.....	Columbus
Leona Mabeth Breese.....	Ross
Elizabeth Marie Brooks.....	Columbus
Mercy Wiggins Brooks.....	Cleveland
Helen Gould Brown (with high distinction).....	Flushing
Ruth Alberta Brown (with high distinction).....	Flushing
William Hobart Buchanan.....	Ripley
Foster Bradley Burnett.....	Columbus
Helen Esther Burton.....	Columbus
John Stuart Campbell, Jr.....	Cadiz
Ruth Elizabeth Cannell.....	Cleveland
Agnes Harriett Carr.....	Greenspring

Claribel Case	Jefferson
Anthony Cosimo Catalano	Cleveland
Harry Bowman Chalfant (with high distinction)	Steubenville
James McGowan Chalfant	Steubenville
Arthur Raymond Cline	Fresno
Eva Clare Collins	Columbus
Robert Corbett	Cuyahoga Falls
Donald Peery Cottrell	Columbus
Robert Lee Criswell	Haskell, Okla.
Walter James Crown	Cleveland
*Mary Etha Culverhouse	Cadiz
Abe Cunix	Columbus
Edward John Davis	Cleveland
Walter Lee Davis	Hartville
Helen Day	Brink Haven
Edward Joseph Demson	Lakewood
William Field Deuschle	Columbus
Lloyd Elsworth Devol	Marietta
Eleanor Mercedes DoBell (with distinction, high distinction in Psychology)	Columbus
Helen Eustelle Donovan	Cardington
Marion Eloise Downing	Peebles
Florence Ellen Dunn	Marietta
Florence Leon Eberhard (with high distinction)	Fostoria
*Helen Margaret Ebinger	Columbus
William Henry Edwards	Washington C. H.
Edward Evans	Dayton
Harry Clifford Fenstermaker	Warren
Rose Finkelstein	Columbus
Byron Edward Ford	Columbus
Eleanor Natalee Forsyth	Clyde
*Margaret Emeline Foster	Columbus
George Harold Fox, Jr. (As of the Class of 1922)	Circleville
Minerva Elizabeth Frazier	Caldwell
*Elsie Maybelle Friebe	Columbus
Russell Conwell Gay	Columbus
Dorothy Getz	Columbus
Leolyn Alleen Gilbert	East Cleveland
Dorothy Barbara Gill	Columbus
Ruth Richards Gleim	Ashland, Ky.
Francis William Gosnell	Columbus
Marian Gray	Winchester, Ind.
Elverda Margaret Guenther	Mansfield
Margaret Elizabeth Guy (with high distinction)	Dayton
Lady Fitch Halliday	Gallipolis
Ernest Tennyson Handley	Columbus
Dorothy Jane Hanna	Columbus
*Mary Adelia Hart	Sharpsburg
Paul Clouris Hartup	Lore City
Homer Harold Hastings	Columbus
Ruby Adams Hedges	Duval
Fred Wengerd Heimberger (with distinction)	Columbus
Mabel Glares Herr	Groveport
Roy Dallas Hildebrand	Newcomerstown
Florence Edna Hill	Canton
Carl Andrew Hiss	Norwalk
Helen Marion Hoskins	Columbus
*Alice Virginia Howard	Columbus
William Ward Hunlock	Toledo
Eleanor Hussey (with distinction)	Linworth
Sidney DeLamar Jackson, Jr.	Youngstown
Lucile Margaret Jenkins	Columbus

Howard Wilfred Johnson.....	Columbus
Karleene Mary Johnson.....	Portsmouth
Genevieve Phyllis Johnston.....	Columbus
Kenneth Belknap Johnston.....	Columbus
*Thelma Luberta Judy.....	Columbus
Frederick Wilson Keller.....	Haverstraw, N. Y.
John George Ketterer.....	Woodsfield
Lillian Knight	Columbus
Rose Mary Kostir (with distinction).....	Bedford
Helen Marie Krepps.....	Columbus
Joseph La Camera.....	Farrell, Pa.
Ella Marie Lamb.....	Columbus
Edwin Ammon Lantz.....	Archbold
Ruth Jean Laughlin.....	Paulding
Helen Margaret Lea.....	Columbus
Ward William Leis.....	Farmersville
Anne Hayden Lewis.....	Columbus
John Franklin Locke.....	St. Louisville
Amos Edward Luckhaupt.....	Columbus
Dorothy Lybarger	Columbus
John Archibald McClister (with high distinction, distinction in Philosophy and Psychology, high distinction in Political Science).....	Akron
*Charlotte Elizabeth McConaughy.....	Bridgeport
Martha McCracken	Columbus
Willard Howe McEwen (with distinction).....	Fostoria
Edna Oma McGill.....	Caldwell
Catherine Alouise McQuade.....	Columbus
Margaret Willis Mapes	Toledo
Constance Marshall (with high distinction).....	Columbus
Margaret Harriet Mason	Zanesville
Curtis May (with distinction).....	Reynoldsburg
Helen Isabel Mayhew.....	Dorset
Ruth Sprafkin Melamed.....	Cleveland
*Faith Melsheimer	Columbus
Olivia Miesse	Columbus
Mark Palmer Miles.....	Norwalk
Clarence Adolph Miller.....	Zanesville
Esther Lucile Miller.....	Toledo
Myron David Miller.....	Vermilion
Ward MacLaughlin Miller.....	Portsmouth
Anne Elizabeth Milliken.....	Warren
Dorothy Mae Minnich (with distinction).....	Columbus
Mary Beatrice Minnich.....	Uhrichsville
*Raymond H. Moffett.....	Woodsfield
Ralph Money (with high distinction).....	Youngstown
Ruth Okey Montague (with high distinction).....	Caldwell
Dorothy Elizabeth Montgomery.....	Newark
Dorothy W. Moore.....	Columbus
Jessie Morrey (with distinction).....	Columbus
Clara Jeanette Morris.....	Marietta
Herbert Robinson Morton.....	New Concord
Bernice Isabel Mullins.....	Swayzee, Ind.
Mary Ellen Murphy.....	Columbus
*Alice Elizabeth Myers.....	Chillicothe
Helen Marie Nieman.....	Columbus
Marie Vera Northrup	Columbus
Bernice Joan Nusbaum.....	Columbus
Edith Louise Offord.....	Columbus
Mary Anita Palmer.....	Columbus
Helen Madeline Parker.....	Columbus
Ida Shepard Parker.....	Columbus

Mary Abigail Parks.....	Worthington
Kenneth Henderson Pauley.....	Youngstown
Verda Ellen Pelton.....	Toledo
Elbert Lapsley Persons (with high distinction).....	Columbus
Dorothy Elizabeth Pierce.....	Columbus
Mary Katherine Platter.....	Columbus
Hugh Cornelius Pohlman.....	Spencerville
Robert Thomas Poling.....	Ansonia
*Dorothy Frances Porter.....	Steubenville
Karl Chapman Pratt (with high distinction).....	Wellington
Helen Drain Proctor.....	Barlow
David Stanley Prosser (with high distinction).....	Miami, Fla.
Paul Rees Rainey (with distinction).....	Georgetown
Clarence Bernard Rawers.....	New Bremen
Dorothy DeVol Reed.....	Uhrichsville
Lawrence Forbes Reed.....	Macedonia
Lucile Maxine Richardson.....	Mansfield
Walter Edward Rickman.....	Cleveland
Lenora May Rogers.....	Columbus
*Mabel Varie Rogers.....	Waynesfield
Margaret Ellen Rose.....	Grafton
*Gust Daniel Rubertino.....	South Euclid
Harmon Avery Runnels (with distinction).....	Johnstown
Jacob Alva Samsel.....	Mansfield
Verna Adele Schlitt.....	Columbus
*Ruth Lavon Schwartz.....	Kenton
William Shear Segar (with distinction).....	Kenton
Lucille Naomi Seibert.....	Columbus
*Lucille Marie Seibach.....	Columbus
Edwin Shields Shane.....	Columbus
Clyde Maxwell Simon.....	Bloomdale
Frances Aleen Smith.....	Columbus
*Lillian Kirkwood Smith.....	Cadiz
Marcella Mary Sommer (with distinction).....	Portsmouth
Mildred Virginia Spragg.....	Bellaire
Dorothy Stewart.....	Ridgeway
Lillian Virginia Strecker.....	Marietta
Edith May Swaney.....	Youngstown
William Jennings Bryan Swank.....	Lewisburg
Dwight Alston Swisher.....	Columbus
*Elizabeth Olive Taylor.....	Zanesville
Helen Taylor.....	Uhrichsville
Louise Huston Taylor.....	Toledo
Mary Stump Taylor (with high distinction).....	West Jefferson
Winifred Duphorne Teach.....	Columbus
Lorin Andrew Thompson, Jr.	Omaha, Neb.
*Wilma Jeanne Thompson.....	Steubenville
Ruth Marshall Townsend.....	Columbus
Christine Louise Tracy.....	Columbus
Viola Mae Trimble.....	Solon
Jane Van Cleave.....	London
Zoe Wadsworth.....	Washington, D. C.
Gerald William Wagner.....	Bellaire
Gladys Waldkirch.....	Akron
Edythe Helene Wallace.....	Lawshe
Helen Mary Warner.....	Chillicothe
Donald Howard Watt.....	Circleville
*Ralph Ellsworth Weaver.....	Sugar Creek
William Louis Weber.....	Zanesville
Joseph Perry Weiss.....	Dundee
Mildred Wheatcraft.....	New Lexington

Barney Wilbur White.....	Greenville
Thomas Rollin Wiley.....	Columbus
*Elizabeth Wood	London
Florence Ellen Woodrow (with distinction).....	Columbus
Alfred James Worsham.....	Piqua
John Luther Yapple.....	Chillicothe
Ralph Denman Yates.....	Piqua
Alma Christine Yerges.....	Columbus
Rachel Van Hook Young.....	Columbus
Iola Zeckhauser	Columbus

(Two hundred and nineteen candidates)

BACHELOR OF SCIENCE

William Keneth Argabright.....	Waverly
Carl Homer Bayha.....	Columbus
Harry Wilbur Beek.....	McComb
William Anderson Bloom.....	Columbus
Wade Disler Bower.....	Columbus
Harold Allen Campbell.....	Newark
John Ellis Conley.....	Van Wert
George Harold Cope.....	Marion.
Walter Frederick Gauggel.....	Columbus
Edward Williams Harris.....	Columbus
John Vanderau Horst.....	Columbus
Paul Herdman Jones.....	Greenfield
Bennie Lubitz	Bellaire
*Louis Harry Mendelson.....	Columbus
Edgar Pickard.....	Cuyahoga Falls
Kenneth Emanuel Reighard.....	Columbus
Marion Dow Scholl.....	Bremen
Frank Patrick Schubert.....	Ford City, Pa.
Henry James Schwensen.....	Elyria
Emerson Paul Shepard.....	Columbus
Donald Delmont Shontz.....	Leetonia
Burdett Earl Shreffler.....	Fremont
Carl Henry Troeger.....	Haviland

(Twenty-three candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF ARTS

As of the Class of 1921

Katherine M. Sweeney.....	Cincinnati
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(One candidate)

As of the Class of 1922

Benedicto Carmen Arcinas.....	San Isidro, P. I.
Lewis Levi Beard.....	Pioneer
Lucretia Griffiths Beck.....	Columbus
Faye Marie Brooke.....	Columbus
Lawrence Leonard Bryan.....	Columbus
Catherine Beecher Chancellor.....	Columbus
George Templeton Cross.....	El Paso, Texas
Marian Rose Dupuis.....	Savanna, Ill.
Mervin Arnold Durea.....	Huntington, W. Va.
Virgil David Evans.....	Cleveland
Maurice Hyman Goldberg.....	Cleveland
Margaret Elizabeth Hall.....	Napoleon
Samuel Kuke Hong.....	Oak Chun, Korea
Po Wen Huang.....	Hongkong, China

Albert Baker Kornfeld (with distinction)	Columbus
Martha Washington Lewis	Columbus
Marcus McEvoy	Niles
Raymond Johnson McKibbin	Youngstown
Carl Frederic Lincoln Malmstead	Worcester, Mass.
Harriet Darling Morris	Toledo
Mary Josephine Frances Smith	Chillicothe
Frederick Kibler Spetnagel	Chillicothe
Joseph Edward Svoboda	Cleveland
Mabel Gertrude Turner, B.Sc. in Edu.	Greenville
William Henry Watkins, Jr.	Cleveland
Carl Jacob Wirthwein	Columbus

(Twenty-six candidates)

As of the Class of 1923

Lewis R. Basch	Columbus
Nelson Hitchcock Budd	Columbus
Paul Homer Chance	Cuyahoga Falls
Robert Emmett Coady	Columbus
Francisco Solia Costes	Mangaldan, Pangasinan, P. I.
Eugene Mund Derby	West Alexandria
Helen Jane Ebright	Columbus
Herbert Joseph Edwards (with distinction)	Columbus
Ruth Frazier	Frazeyburg
Howard DeBosse Giles	Columbus
Gracil Green	Cumberland
Ralph Louis Hassler	Cleveland
John Life LaMonte (with high distinction, high distinction in European History)	Columbus
Marion Henry Landis	Eaton
Milton Oliver Lee (with high distinction)	Dorset
Carl William Lortz	Urbana
Carleton Carl Reiser	Napoleon
Eloise Richardson, B.Sc. in Edu.	Columbus
Benjamin Harrison Scott	Lynchburg, Va.
Mayme Lee Shaw	Dayton
Rhoderick Reese Shaw	Lancaster
Elithe Pauline Sparrow	Columbus
Winston Robert Updegraff	Martins Ferry
George Gilbert Wise	Butler, Pa.
Tsung-Ju Wu	Anking, China

(Twenty-five candidates)

BACHELOR OF SCIENCE

As of the Class of 1922

Robert John Armbrrecht	Wheeling, W. Va.
Robert Ellsworth Baker	Columbus
Robert Flinn Corwin	Ansonia
Israel Aaron Fine	Steubenville

(Four candidates)

COLLEGE OF COMMERCE AND JOURNALISM

Dean: JAMES E. HAGERTY

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

Myers Asbury Abbott	Shelby
Ivan Rupert Adams	Columbus
Lillian Elsie Aiken	Youngstown
Halbert Everstan Angell, Jr.	Columbus
Joe Hatcher Ayres	Hillsboro

William Wayne Badger	Millersburg
Fred Williams Bailey	Columbus
Samuel Pond Baird, Jr.	Columbus
Henry Albert Baldwin	Weston
*Mahlon Gilbert Barnes	Paulding
Joseph Kern Baur	Toledo
William Joseph Bergen, Jr.	Lakewood
Samuel James Bergens	Cleveland
Hyatt Berry	Toledo
Lawrence Julius Bitter	Akron
Howard Holt Blair	Mt. Vernon
Richard Austin Blessing	Jeffersonville
Thomas Burch Bloom	Wilmington
Clyde Ward Bower	Scio
Harold Pier Braman	Salem
Andrew Broscoe	Columbus
Joseph Howard Burton	Casstown
Roe A. Busch	Brookville
Sanford Harover Carraci	Wellston
Luther Sloan Clark	Akron
Paul Brown Coffman	Columbus
Gordon Judson Cole	Cleveland
David Harris Crossland	Zanesville
Ralph E. Deem	Columbus
Paul Walter Denning	Columbus
Robert Dew	Westerville
Jean Vetter De Weese	Delphos
Robert Pope Diehl	Woodfield
Halbert Frank Doig	Cleveland
Byron Williamson Downs	Columbus
Robert Lewis Dudley	Briggsdale
Eagleton Frederick Dunn, Jr.	Columbus
Kennard Reuben Erk	Columbus
Morris Freeman Fergus	Brooksville
Raymond Earl Ferguson	Magnetic Springs
Harold Robb Frankenberg	Pataskala
Arthur Edward Freel	Niles
Edwin Henry Gebele	Ft. Recovery
Frank Brown Gibson	Lynchburg
Gordon Byron Gilliland	Van Wert
William Edward Given	Wellsburg, W. Va.
Nathan Goldzwig	Dayton
Harley Delno Grandstaff	Columbus
Albert Lewis Grosjean	Orrville
Howard Fenimore Haines	Columbus
Wilbur Byron Haines	Dayton
William Ray Hall	Cambridge
Paul Hapner	Dayton
John Russell Hartenfels	Mansfield
Glenn Wilson Hatfield	Georgetown
Oscar Richey Hayes	Ironton
Harold Leotis Hays	Washington C. H.
Stanley Franklin Heald	Ironton
Ada Letitia Hensel	Van Wert
John Sherman Hertzner	Tiffin
Edwin Donald Hildebrant	Shelby
Curtis Reed Hill	Miamisburg
Ralph Edward Hiskey	Bellevue
Charles Emerson Hubbard	Dayton
John J. Hummel	Cleveland
Leland Western Hupp	Columbus

Paul Elmer Hurr	Edison
Harold Bertrand Jackson	Van Wert
Lester Mayer Jacobs	Dayton
Ernest Paul Jones	Laura
Henry Arthur Krigbaum	Columbus
Richard Alvin Kunning	New Bremen
Kenneth Bridge Ledman	Huntington, Ind.
Jay Wayne Ley	Columbus
Herman Edward Lucas	Dayton
Elwin Homer Luckens	Dayton
John Edward McClain	Martins Ferry
John Miller McDonald	Columbus
James Roland McMahon	Milford Center
Horace Clawson Maddux	Columbus
Ferd Ralph Messinger	Fremont
Albert John Miller	Columbus
Lewis Edward Miller	Dayton
Ruth Marie Adele Miller	Columbus
Joseph R. Mirlevitz	Cleveland
Lawrence Leander Moberg	Brockton, Mass.
*Raymond H. Moffett	Woodsfield
Lewis Samuel Moorehead	Toledo
Edward Aloysius Moriarty	Columbus
Leon Archie Morris	Lilly Chapel
Harold Stafford Murray	Painesville
Jacob Charles Nesbitt	Troy
Andrew Gunning Nitschke	Columbus
William Henry Osborn	Van Wert
James Martin Packer	Columbus
Kilyong Park	Seoul, Korea
Lowell Dean Perry	Wauseon
Alden Rupert Pinson	Long Branch, N. J.
Norman George Pollman	Toledo
Peter Christopher Poss	Custar
John Edmund Pryor	Lake View
Jesse Joseph Pugh	Zanesville
David Lawrence Purdom	Xenia
Katharine Frances Rainey	London
Karl Dustin Reyer	Lafayette, Ind.
Edward Charles Richley	Middletown
John Clifford Roberts	Cambridge
Ralph Dean Rodabaugh	Arlington
Dwight Earl Roller	Lancaster
Clyde S. Rossel	Orrville
*Gust Daniel Rubertino	South Euclid
Daniel Robert Ryan	Columbus
John Joseph Ryan	Circleville
Ethan Allan Schaeffer, Jr.	Springfield
Karl Schaeffing	Columbus
Victor Christian Schroeder	South Euclid
Seth Carl Shank	Akron
Ernest Harold Shell	Dayton
Samuel Shinbach	Toledo
Frank Clifton Shugert	Columbus
Telesforo Carino Sipin	Columbus
Gail Whitford Smith	Akron
Harry Brooker Snyder	Dalton
Burdette Frederick Spaeth	Mantua
William Raymond Speer	Columbus
Leland Alfred Stoner	West Unity
Sheng-Han . Tao	Shanghai, China

Leland Alvero Taylor.....	New Holland
Walter William Thomen.....	Columbus
Earle Barrett Tilton.....	Zanesville
Robert Hinkle Velte.....	West Middletown
William Warren.....	Hilliards
Walter John Warwood.....	Hamilton
Maine Ellsworth Weimer.....	Pemberville
Edward H. Weiss.....	Cleveland
Willis John Wendler.....	Fremont
Andrew John White, Jr.....	Columbus
Elbert Homer Williams.....	Bowling Green
Lawrence Ray Woodward.....	Van Wert
Charles Noel Workman.....	Columbus
Cleon Martel Xander.....	Springfield
Edgar Darell Zeigler.....	Venedocia
Israel Ralph Zwick.....	Cleveland

(One hundred and forty-three candidates)

BACHELOR OF SCIENCE IN JOURNALISM

Albert Arnold Bowman.....	Cleveland
Margaret Cramer Bradbury.....	Columbus
Frederick Thomas Cabbage.....	Alexandria
Hilda Irene Davies.....	Martins Ferry
John Patrick Dorsey.....	Lorain
Frederick Clark Hanks.....	Newark
Harry Lincoln Horne.....	Larue
Lucian Jenness.....	Chillicothe
Dorothy Marie Kress.....	Piqua
Norval Neil Luxon.....	New London
Rhea May McCarty.....	Columbus
Roscoe Lee May.....	Shelby
Achsah Cora Minnich.....	Uhrichsville
Paul Ira Theodore Motry.....	Sandusky
Augustus Garland Parker.....	Cincinnati
Karl Bone Pauly.....	Middletown
Sara Ross.....	Wellsville
Henry Clay Segal, B.A.....	Chillicothe
Edna Mae Smith.....	Sharon Center
Robert Bruce Smith, Jr.....	Springfield
Charles Gideon Stewart.....	Norwalk
Geneva Edna Stiffler.....	Marion
Charles Hobart Vaughn.....	Polk
Ray Christy Wilkerson.....	Glendale

(Twenty-four candidates)

BACHELOR OF SCIENCE IN SOCIAL ADMINISTRATION

Helen Gould Countryman.....	Ashland
Margaret Alice Darby.....	Columbus
Lucille Clara Daving.....	Columbus
Charles Alfred Ford.....	Columbus
Jeannette Frank.....	Columbus
Dorothy Sarah Hassel.....	Columbus
Miriam S. Hoffman.....	Salem
Dorothea Virginia King.....	Chicago, Ill.
Rebecca Patricof Krause.....	Mt. Vernon
Yetta Carolyn Lurie.....	Columbus
Anna Margaret Murray.....	Mansfield
Pauline Marian Scott.....	North Canton
Maude Ellen Taylor.....	Columbus
Isabel Wehr.....	Columbus
Louise Evelyn Weinlein.....	Columbus

ANNUAL REPORT

277

Helen Theresa Welsh.....	Columbus
Esther Allena Wolfley.....	Columbus
(Seventeen candidates)	

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

As of the Class of 1922

Edward Graham Baird.....	Bowling Green
Glenn Burdette Bowyer.....	Kinsman
Edwin Quinter Brandt.....	Columbus
Ralph Charles Curth.....	Cleveland
Elmo Martin Estill.....	Millersburg
Wayland Arthur Flohr.....	Bucyrus
Clyde Norman Kemery.....	Columbus
Jay T. Miller.....	Sterling
Joe Atlee Mitten.....	Glenmont
Thomas Tracy Pittenger.....	Columbus
Donald Clinton Power.....	Columbus
(Eleven candidates)	

As of the Class of 1923

Harry Bloom Beelman.....	Plymouth
John Andrew Brown.....	Fayette City, Pa.
Harold Arthur Dittenhaver.....	Paulding
Cecil Collins Exum.....	Youngstown
John Joseph Gerlach.....	Columbus
Lawrence Urias Jeffries.....	Circleville
Carl Beecher McClerg.....	Columbus
Ralph Waldo McConnell.....	Cambridge
Henry Conrad Ohlson.....	Middletown, Conn.
William V. Prechtel.....	Norwalk
Frank Edward Siggins.....	Cody, Wyo.
Ward Wesley Sigler.....	Rittman
(Twelve candidates)	

BACHELOR OF SCIENCE IN JOURNALISM

As of the Class of 1923

Ruth Eloise Cartzdafner.....	London
Mildred Ann Henson.....	Columbus
(Two candidates)	

COLLEGE OF DENTISTRY

Dean: HARRY M. SEMANS

DOCTOR OF DENTAL SURGERY

Howard Clayton Allison.....	Cumberland
Lloyd Frederick Andrews.....	Sugar Creek
Forrest Earl Bode.....	Marietta
Harold Edward Boyer.....	Ashland
Charles Hector Buck.....	Kenton
John Elmer Cover.....	Crestline
David Gail Dean.....	Lodi
Francis James Doyle.....	Columbus
John Thomas Dutro.....	Groveport
Earl S. Dye.....	Dayton
Verne Harrison Finsterwald.....	Athens

Sherman Marion Frazier.....	Bryan
Clarence Joseph Gensler.....	Germantown
Donald Armstrong Gillim.....	Yellow Springs
James Franklin Greer, B.S. (College of Wooster).....	Danville
Earl William Hagemeyer.....	Pemberville
Samuel Binz Hays, Jr.....	Columbus
Ira Lee Hedrick.....	Pataskala
Harvey Clifton Highman.....	Woodsfield
Louis Gilbert Hill.....	Brewster
Emerson Monroe Hoyer.....	Columbus
Fred Hermon Jacobs.....	East Conneaut
Thomas McAllister Johnson.....	Columbus
Los Harold Jones.....	Columbus
Noble Edward Lett.....	Portsmouth
Wilson Davis Lightner.....	Dayton
Dwight Harold Long.....	Zanesville
George B. McClellan.....	Columbus
Samuel Mendelsohn.....	Youngstown
Solomon Milcoff.....	Cleveland
Harold Gutelius Morris.....	Youngstown
Braden Emory Nida.....	Gallipolis
Wendell Dean Postle.....	Newark
Reuben Grant Prather.....	Columbus
Mark Byron Ryder.....	Covington
Charles Sylvester Sauers.....	Orrville
Paul Steiert Schoeneweiss.....	Columbus
Sigmond Schwartz.....	Youngstown
Henry Alder Sebald.....	Middletown
Joseph Walker Sellers.....	Mt. Vernon
Raymond Homer Seymour.....	Ashtabula
Arthur Mason Simpson.....	Bellevue, Pa.
Chilson Milo Stieckrath.....	Lower Salem
Leroy William Stocklin.....	Columbus
John Russell Stuke.....	Lancaster
Lawrence Rodney Thorpe.....	Sabina
Virgil Harold Traxler.....	Mansfield
Paul Gould Welles.....	Columbus
Walter Robert Williams.....	Delaware
Walter William Willing.....	Ashtabula
Arthur Baldwin Young.....	Columbus

(Fifty-one candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

DOCTOR OF DENTAL SURGERY

As of the Class of 1922

Joseph Samuel Buxbaum.....	Cleveland
Lawrence James Volk.....	Cleveland

(Two candidates)

COLLEGE OF EDUCATION

Dean: GEORGE FREDERICK ARPS

BACHELOR OF SCIENCE IN EDUCATION

Marion Louise Ash.....	Columbus
Della Fern Bateman.....	Zanesville
*Vera Regina Baxter.....	Delphos
Mary Frances Beard.....	Columbus

Marian Lois Becker	Steuenville
Marie Alice Bier	Chillicothe
Elizabeth Low Blackburn	Steuenville
Elizabeth Hass Bowers, A.B. (Heidelberg University)	Mingo Junction
*Ursula Ruth Bracken	Columbus
Eather Adelaide Brown	Mentor
Fairy Shores Burrell	Coshocton
George Leonard Bush	Bidwell
Thelma Aone Calhoun	Keystone, W. Va.
Bess Roush Callaway, B.S. (Rio Grande College)	Cheshire
Virginia Chamblin	Columbus
Louise Edith Coen	Columbus
Ruth Hudson Coffman	Columbus
*Mary Etha Culverhouse	Cadiz
Martha Darby, B.A.	Columbus
Martha Elizabeth Darragh	Columbus
Anna Pauline Defenbaugh	Tarleton
Thelma Erna Derrer	Columbus
Agnes Dougherty	Cleveland
Gertrude Emma Durbin	Danville
Frances Willard Dye	Antioch
*Helen Margaret Ebinger	Columbus
Wilma Elizabeth Eilbert	Columbus
Helen Harrison Fairchild	Camp Chase
Kathryn Faller	Columbus
Clara Elizabeth Fenn	Medina
Lester McClellan Finley	Quaker City
Mary Belle Fishbaugh	Mendon
Marion Lingo Ford	Columbus
Emily Elsie Fornof	Columbus
Elizabeth Caroline Galliher	Muncie, Ind.
Elizabeth Diantha Gelvin	Kinsman
Gertrude Elizabeth Gordon	Columbus
Dudley Thomas Griffin	Columbus
Florence May Grimm	Columbus
Florence Marie Harley	Columbus
*Mary Adelia Hart	Sharpsburg
George Elliott Hatfield	Columbus
Lida Hays	Columbus
Alberta Henley	Columbus
*Florence Edna Hill	Canton
Mary Katharine Hillyer	Uhrichsville
Edna Marea Hoffman	Columbus
*Alice Virginia Howard	Columbus
Edith Marion Hutcheson	Columbus
Sarah Hutt	Waverly
Ellen Elizabeth Hyde	Rushville
Thelma Louise Ink	Lexington
Grace Ingersoll Johnson	Columbus
Helen Amelia Jones	Columbus
*Thelma Luberta Judy	Columbus
Edna Margaret Klein	Ironton
Huldah Ann Kley	Toledo
Miriam Lucille Kreider	Wadsworth
Lillian Katherine Krueger	Toledo
Dorothy Kuenning	New Bremen
Mary Joyce Laird	Columbus
Eva Virginia Lamon	Columbus
Reppa Doddridge Larimore	Dayton
Jessie Marguerite Lawrence	Columbus
Margaret Isabel Lawson	Columbus

Lola Louise Lemley.....	Columbus
Glenn Silas Long.....	Lima
Esther Loomis.....	Columbus
*Charlotte Elizabeth McConaughy.....	Bridgeport
Edith Pearl McCoy.....	Columbus
Neal Alexander McCoy, B.Sc. in Agr.	Seville
Helen Louise McKeown.....	Columbus
Grace Elizabeth Maidlow.....	Gilboa
Ruth Markey.....	West Alexandria
Louise Kaiser Marshall.....	Columbus
Mary Chapin Mason.....	Fremont
Alice Louise Mathiott.....	Portsmouth
*Faith Melsheimer.....	Columbus
Lucille Elizabeth Mercer.....	McConnelsville
Marjorie Anne Minnich, B.Sc. in H.E.	Columbus
Marjorie Minturn.....	New Lexington
Edith Katheryn Moore.....	Columbus
Hattie Marguerite Moore.....	Columbus
Miriam Van Dervort Morgan.....	Morrow
Mary Elliott Mowls.....	Columbus
Gladys Mae Muchmore.....	Columbus
*Alice Elizabeth Myers.....	Chillicothe
Elizabeth Virginia Myers.....	Columbus
Bertha May Nafzger.....	Gahanna
Martha Van Kirk Nelson.....	Washington C. H.
Mary Georgia Nichols.....	Columbus
Mary Catharine Nolan.....	Troy
Frances Elizabeth O'Brien.....	Columbus
Nelle Marie Oesterle.....	Ashville
Mary Margaret Pickering.....	Columbus
*Dorothy Frances Porter.....	Steubenville
Jean Williamson Porter.....	Oak Hill, W. Va.
Helen Margaret Poulton.....	Columbus
Mildred Elizabeth Rader.....	Columbus
Hannah Lucile Rice.....	New Vienna
Eva Marie Richards.....	Columbus
Inez Christina Rogers.....	Columbus
*Mabel Varie Rogers.....	Waynesfield
Laura Belle Sandusky.....	Gahanna
Bertha Augusta Schlose.....	Dayton
*Ruth Lavon Schwartz.....	Kenton
Grace M. Secrist.....	Wharton
Josephine Sedgwick.....	Columbus
*Lucille Marie Selbach.....	Columbus
Pansy Lorraine Sevy.....	Oak Hill, W. Va.
Mildred Irene Sewell.....	Columbus
Mary Elizabeth Shively.....	Columbus
Ida Aleta Shover.....	Columbus
Clara Josephine Singrey.....	Lancaster
*Lillian Kirkwood Smith.....	Cadiz
Mildred Josephine Solt.....	Lancaster
Mary Catharine Stayman.....	Columbus
Kathryn Isabelle Stump.....	Marion
*Elizabeth Olive Taylor.....	Zanesville
*Wilma Jeane Thompson.....	Steubenville
Eloise Tidd.....	Lancaster
Emma Estelle Tracy.....	McDermott
Laura Tussing.....	Reynoldsburg
Mary Ernestine Van Fleet.....	Caldwell
Mildred Louise Vermillion.....	Columbus
Helen Sigrid Vorman.....	Youngstown
Doris Ellen Wasserstrom.....	Columbus

Alice May Waxbom.....	Westerville
Ruth Alice Wildman.....	Warren
Adolphus Gustavus Williams.....	Delaware
Evelyn Arminda Winters, B.A.	Columbus
*Elizabeth Wood	London
Freda Elizabeth Zehm.....	Columbus

(One hundred and thirty-three candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF SCIENCE IN EDUCATION

As of the Class of 1922

Curtiss Linvill Berry.....	Lancaster
Dorothy Louise Buck.....	Columbus
Anthony Dolezal	Columbus
Lucile Eby	Smithville
Helen Virginia Garrett.....	Columbus
Helen Marion Gilmore, B.A.	Cleveland
George Allen Hartinger.....	Columbus
Dorothy Choate Kelsey.....	Columbus
Emily Martha Lewis.....	Wyoming
Harold Walter McColley.....	Tontogany
Myron Allison Mann.....	Belpre
Opal Ellis Moore.....	Washington C. H.
George Ambrose Parkinson.....	Columbus
Ellouise Robinson	Columbus
Elma Mae Schneider.....	Gahanna
Norma Selbert	Columbus
Clarence C. Smith.....	Tippecanoe City
Carolyn Willis.....	Washington C. H.

(Eighteen candidates)

As of the Class of 1923

Helen Marie Ashley.....	Columbus
Iida Katherine Falter.....	Columbus
Royal Ray Fliehmann.....	Harrison
Albert Lee Henderson.....	Columbus
Metta Gail Philbrick.....	Columbus
Charlotte Esther Roloson	Columbus
Helen Dorothy Ruhlen.....	Kenton
Loel Zehner Tiffany.....	Columbus
Florence Estella White.....	Grove City

(Nine candidates)

COLLEGE OF ENGINEERING

Dean: EMBURY A. HITCHCOCK

ARCHITECTURAL ENGINEER

William Arthur Foster, B.Sc. in Edu., B.Arch.	Ames, Iowa
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(One candidate)

CHEMICAL ENGINEER

Edgar Collins Bain, B.Sc. in Chem.Engr., M.Sc.	Dunkirk, N. Y.
Arno Charles Fieldner, B.Sc. in Chem. Engr.....	Pittsburgh, Pa.
Howard Earl Fritz, B.Sc. in Chem. Engr., M.A.	Barberton

(Three candidates)

THE OHIO STATE UNIVERSITY

BACHELOR OF ARCHITECTURE

Joseph Nation Arnold, Jr.	Massillon
Katherine Buchanan Galigher	Zanesville
*Russell Mertens Krob	Columbus
Robert Mauck Switzer, Jr.	Gallipolis
Paul Luther Wood	Marshalltown, Iowa

(Five candidates)

BACHELOR OF ARCHITECTURAL ENGINEERING

Rolland Alfred Bohling	Danbury
Russell Rader Fling	Hillsboro
Myer Gluchov	Cleveland
Joseph V. Goldberg	Columbus
Paul Willis Hofferbert	Fountain City, Tenn.
Alexander Winters Huhn	Columbus
Andrew Craig Jack	Cleveland
*Russell Mertens Krob	Columbus
Marion Francis Ross	Hamilton
Herman Doepping Schneemilch	Columbus
John Palmer Schooley	Zanesville
Ruth Belle Stritmatter	Cincinnati
James Fowler Williams	Columbus

(Thirteen candidates)

BACHELOR OF CERAMIC ENGINEERING

Earl Emanuel Baldauf, A.B. (Capital University)	Marion
Hugh Curran	Bakersfield, Cal.
Raymond Thomas Fesler	Youngstown
Frank Goodwin Gibson	Columbus
Samuel Eugene Hemsteger	Middletown
Karl Marx Kautz	Columbus
Crawford Massey	Zanesville
Ernest Leroy Murray	Mt. Gilead
Louis Schmunk	Pandora
Charles Adelbert Smith	Columbus

(Ten candidates)

BACHELOR OF CHEMICAL ENGINEERING

Angel Floribal Acosta	Rincon, Porto Rico
Clayton Merrel Barden	Shreve
George D. Edward Bland	Marion
Durain Clifton Butts	Sandusky
Harry Gordon Carrell	Roseville
Dean McDill Cleaveland	Columbus
Albert George Corwin	Lebanon
Helen Stone Crooks	Marietta
Harold Morris Davies	Illion, N. Y.
Tod B. Galloway Dixon	Columbus
Ralph Thomas Donham	Columbus
Ralph Holmes Ferguson	Jamestown
Elmer Joseph Fisher	Bay Village
Robert Henry King Foster	Cleveland
James Thumwood Goff	Trinway
William John Harrison	Columbus
Edgar Carl Hendrickson	Dayton
Earl Harry Houck	Columbus
Robert Chester Kintner	Columbus
Walter Lewis Kirkpatrick	West Lafayette
George Richard Lyon	Alliance
Laurence Cupp Mapel	Columbus Grove
Paul L. May	Youngstown

Alton Court Michaels.....	Tiffin
Harold Henry Miller.....	Sandusky
Howard Leroy Moon.....	Middletown
Gordon Henry Mutersbaugh.....	Cleveland
Wayne Charles Norris.....	Newark
Alvin Henry Peters.....	Groveport
Edwin Nazel Prinz.....	Dayton
Ralph Roughton Rebuck.....	Marietta
John Louis Allen Roberts.....	Huntington, W. Va.
George Dudley Robinson.....	Columbus
Albert Schwensen.....	Vermilion
Paul Stanley Speer.....	Dayton
Edward Darius Turnbull.....	Pomeroy
Frank William Volk.....	Columbus
Ray Ellwood Whinnery.....	Salem
George Hart Wilkinson.....	Lancaster
Theron Heath Wright.....	Worthington

(Forty candidates)

BACHELOR OF CIVIL ENGINEERING

James Howard Ault.....	Yellow Springs
Ralph David Beard.....	Bradford
Vaughn Benjamin Caris, B.A. (Defiance College).....	Defiance
Harold Adrian Cattell.....	Willoughby
Herman Franklin Cotner.....	Elida
Maynard Joseph Curtis.....	Toledo
John Siebert DePuy.....	Columbus
Mervin Francis Devine.....	Cleveland
John Wilford Dowler.....	Pickerington
Kiser Earhart Dumbauld.....	Uhrichsville
Oscar Ward Eaton.....	Bryan
Paul Fleming Fitzer.....	Galena
James Homer Foster.....	Peebles
William Edward Frasch.....	Logan
William Wallace Graham.....	Columbus
Donald Jameson Hatfield.....	Lebanon
Harry Holman Hawley.....	Columbus
John Hamilton Jefferson.....	Bloomington
Lawrence Donald Jones.....	Columbus
Kenneth Hall Kinkley.....	Mendon
Frederick Spencer Kriger.....	Corning, N. Y.
James Clyde McClure.....	Tippecanoe City
Herbert Virgil McCoy.....	Peebles
Edmund Mesloh.....	Columbus
Ray Newlun.....	Columbus
Luther Carl Noland.....	Columbus
Charles Emerson Pettis.....	Alliance
Benjamin Franklin Renick.....	Columbus
Raphael John Shaffer.....	Urbana
James Theodore Shidecker.....	Columbus
Carl Benner Smith.....	Alliance
John Russell Turner.....	Shepard
Robert James Warrick.....	Springfield

(Thirty-three candidates)

BACHELOR OF ELECTRICAL ENGINEERING

Henry Herrick Abbott.....	Columbus
George Haskell Allen.....	Springfield
Robert Clayton Ayres.....	Eaton
Carlos Ernesto Bentzon.....	Lima, Peru
Paul John Birkmeyer.....	Coldwater

Frederick Wilhelm Brixner.....	Germanatown
Weston Ackley Brown.....	Maumee
Rolla N. Carter.....	Kyle
Lewis John Cissna.....	Dayton
Harold Edward Cobb.....	Columbus
Charles A. Coronado.....	Piura, Peru
Rene Louis Cros, B.A., B.S. (University of Montpelier, France).....	Nimes, France
Darrol Franklin De Long.....	Kingston
Albert William Dickey.....	Bloomington
Orin Virgil Earhart.....	Columbus
Ivan C. Eppley.....	Columbus
Edward Francis Ferguson.....	Columbus
Frank Haynes Fetterman.....	Strongsville
Wilfrid Joseph Fitzgerald.....	Cleveland
Carroll Ivan Greer.....	Mt. Vernon
Sheldon Conant Hayward.....	Columbus
Irvin Henry Heikkamp.....	Toledo
Leo Richard Jacquot.....	Swanton
Kenneth Warner Jarvis.....	Columbus
Henry Wallace Keller.....	Columbus
William McKinley Kellogg.....	Canton
John Howard Kerstetter.....	Toledo
Harold Prince Lewis.....	Troy
James William Long.....	Chillicothe
Venard Middleton Lucas.....	Columbus
Sherman Barton Lyon.....	Columbus
Robert McComb McElwee.....	Westerville
Floyd Marion Martin.....	Columbus
Francis Leo Meara.....	Columbus
Jose Melman.....	Santafe, Argentine Republic
Thomas Hammond Metters.....	Columbus
Charles Edward Mundwiler.....	Tiffin
Gilbert Oliver Rahrig.....	Delphos
Robert Alexander Rearden.....	Washington, C. H.
Rollin Henry Rendlesham.....	Cleveland
Edwin Eugene Richards.....	Sidney
Danilo Santini.....	Santafe, Argentine Republic
Robert Thomas Sawyer.....	Columbus
Jameson Warren Sinkford.....	Columbus
*Allan James Smith.....	Columbus
Floyd Frederick Smith.....	Sandusky
Lucian Benjamin Smith.....	Wilmington
Cesar Suffriti.....	Santafe, Argentine Republic
Nilo Eelis Tuura.....	Ashtabula Harbor
Harold D. Van Sweringen.....	Spencerville
Loren Benton Wheaton.....	Columbus
Robert Blanchard Williamson.....	Columbus
Frederic Moore Zimmer.....	Newcomerstown

(Fifty-three candidates)

BACHELOR OF ENGINEERING

Yu Chien Chu.....	Peking, China
Oscar Dennis Ferguson.....	Columbus
*Wesley Harris Miller.....	Akron
Homer Kendall Smith.....	Westerville

(Four candidates)

BACHELOR OF MECHANICAL ENGINEERING

George Edwin Atkinson.....	Proctorville
Robert Harris Ball.....	Cleveland
Edgar William Barnhart.....	Marion

Arthur Vernon Berthold.....	Van Wert
Erwin Millard Breithaupt.....	Columbus
Joseph Thomas Buchanan.....	Ripley
Clarence Dean Bucher.....	Columbus
Harold Thomas Burnham.....	Medina
Roger Thomas Businger (As of the Class of 1921).....	Springfield
Charles Dolman Cooper.....	Cambridge
Wiley Abel Cummins.....	Wilmington
George Quigley Downes, Jr.	Chester, Pa.
Homer Morgan Faust.....	Youngstown
Louis Denis Forward.....	Urbana
Jacob Eugene Gabler.....	Dayton
Otto William Habel.....	Delta
Edwin William Hall.....	Findlay
Harold C. Harrison, B. Met.E.	Columbus
Carl Ludwig Hecker.....	Columbus
Arthur Russell Herbert.....	Carey
George Irwin.....	Holland
Richard Darrel Johns.....	Lima
Philip Benjamin Johnson.....	Columbus
John Robert Kilpatrick.....	Newark
Edwin Berger Krieger.....	Columbus
Ralph Waldo Kurtz.....	Sycamore
Jesse Lorin Lawthers.....	Jewett
Milton Schlesinger Lehman.....	Portsmouth
Donald Edward McGuire, B.A.	Windham
Maxwell Falconer MacNally.....	Springfield
Huerl Hugo Maddox.....	Hartford City, Ind.
Alfred Lewis Marshall.....	Columbus
Charles Edwin Mitchell.....	Spencerville
Samuel Paul Moyer.....	Youngstown
John Henry Nodes.....	Erie, Pa.
Ernest Austin Parker.....	Chardon
Robert Herd Porter.....	Oakland, Md.
Andrew Jackson Printz.....	Zanesville
Francis Ignatius Rataiczak.....	Stryker
Nelson Miles Rieger.....	Dayton
Albert Edward Ruff.....	Lancaster
Henry William Schaub.....	Tiffin
Clifford Jacob Schlafman.....	Dayton
John Clarence Sharp.....	Cadiz
John DeLap Slemmons.....	Columbus
*Allan James Smith.....	Columbus
Mortimer Willard John Snyder.....	Cleveland
Robert Vinton Thomas, Jr.....	Columbus
Loy Allen Updegraff.....	Woodsfield
Fred Wayant.....	Columbus
Robert Augustus Weinland.....	Columbus
Horace Edward Wetzell.....	Cleveland
Frances Trueman Williams.....	Youngstown
Merle Anderson Zimmerman.....	Doylestown

(Fifty-four candidates)

BACHELOR OF METALLURGICAL ENGINEERING

Lyman Cyrus Athy.....	Springfield
Sigmund Francis Bradel.....	Chicago, Ill.
Levy Monroe Bricker.....	Toledo
Yancey Jones Bruce.....	Crafton, Pa.
John Varney Dudley.....	Wheeling, W. Va.
John Elvin Eppley.....	Columbus
Ralph Hambleton Gelder.....	Ashland, Ky.

THE OHIO STATE UNIVERSITY

William Ewart Griffiths.....	Massillon
Carl Christian Mahlie.....	Bucyrus
Stanley Martin Neubrandner.....	Hamilton
(Ten candidates)	

BACHELOR OF ENGINEERING IN MINING

Foster La Clair Apple.....	Lima
John Willard Buch.....	Massillon
Wheelock Hubbell Cameron.....	Chagrin Falls
Millard Jay Clark.....	Bradley
Louis Boris Daniels.....	New York City
Arthur Lester Gruver.....	Toledo
James Calvin Johnston.....	Geneva
Edward Joseph Kaplow.....	Lorain
Robert Knowles McBerty.....	Galion
Karl Rudolph Mesloh.....	Columbus
Rodney Frank Stilwell.....	Barberton
(Eleven candidates)	

BACHELOR OF SCIENCE IN APPLIED OPTICS

Clarence Roy Ellis.....	Aberdeen
Blaun Wills Sigler, B.Sc. (Denison University).....	Chillicothe
Joel Edward White.....	Lancaster
(Three candidates)	

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF MECHANICAL ENGINEERING

As of the Class of 1922

Harold Peter Schneider.....	Toledo
(One candidate)	

COLLEGE OF LAW

Dean: JOHN JAY ADAMS

JURIS DOCTOR

John Martin Vorys, B.A. (Yale University).....	Columbus
(One candidate)	

BACHELOR OF LAWS

Ernest Abram, B.A.....	Cleveland
Michael Herschel Austin.....	Akron
William Zacharias Bair, B.A.	Hanover, Pa.
Robert Paul Barnhart.....	Columbus
Galen Floyd Basinger, B.A.	Columbiana
John William Bebout, B.A.	St. Louisville
Hubert Thompson Campbell.....	Seneca
Nelson Horace Carran.....	Lakewood
John Francis Cholley, B.S. (Mount Union College).....	Louisville
Wilby Stuyvesant Cowan, B.A.	Mt. Sterling
John Adolphus Creps, B.A.	Lima
Harry Sigmund Dasch.....	Akron
James Truxal DeWitt.....	Canton
Faber Joseph Drukenbrod.....	Canton
Robert George Harroun.....	Toledo
Clay Evans Hunter, A.B. (Wilberforce University).....	Yellow Springs
Howard Morgan Jones.....	Columbus

Goldie Sylvia Kanter	Columbus
Lester C. Klein	Cleveland
David Harold Leboff	Cleveland
Carl William Lortz, B.A.	Urbana
Cyril John Maple, B.A.	Grafton
Granville Harold Martin	Columbus
Thomas Oliver Nevison	Ashtabula
Otho Vinson Overholser	Richwood
Raymond James Parillo	Girard
Robert Creath Parker, B.A.	Columbus
Arthur Leroy Rowe	Coalton
George Waight Secrest, B.A. (Ohio Wesleyan University)	Akron
William McKinley Sharp	Salineville
Dudley Franklin Smith, B.A. (Ohio Wesleyan University)	Columbus
James Emerson Thomas	Greenville
Carl Emerson Wagner	New Lexington
Ralph Ellsworth Weaver	Sugar Creek
Harry Stanton Winer	Kenmore
John Wilfred Winn, Jr., B.A.	Defiance
Wayne Emerson Wohrley	Columbus

(Thirty-seven candidates)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

BACHELOR OF LAWS

As of the Class of 1922

Edwin Speiser Diehl	Defiance
Harold Clay Powell, B.A. (Ohio Wesleyan University)	New Lexington

(Two candidates)

COLLEGE OF MEDICINE

Dean: EUGENE F. MCCAMPBELL

DOCTOR OF MEDICINE

Luther William Adams, B.Sc.	Columbus
John William Adrian	Belmore
Maynard Ardeen Buck, B.Sc.	Lodi
Palmer Lloyd Cordray, B.A. (Ohio Wesleyan University)	Columbus
Willard Grant Drown	Greenspring
Nancy Ethalinda Finney, B.A., B.Sc. in Edu.	Cedarville
Clarence Carey Fitzpatrick, B.Sc.	Wellston
William John Gelhaus	New Weston
Estella Lucille Johnson, B.A.	Columbus
Raymond Aloysius Lewis, B.A.	Columbus
Robert Parker Little, B.A.	Columbus
Sydney Newby Lord, B.Sc. in Agr. (Ontario Agricultural College)	Columbus
Claude Arnold McCollough	Salineville
Emlyn Richard Marker	Columbus
Olin Raymond Martin	Versailles
Frank Reginald Maskrey	Canton
Florence Adrienne Meck, B.Sc.	Dayton
*Louis Harry Mendelson	Columbus
Howard Ross Mitchell, B.Sc.	Spencerville
Thomas Eccles Morgan, B.Sc.	Cleveland
Louis Meyer Piatt, B.Sc.	Columbus
Elmer Charles Raabe, B.A.	Ft. Jennings
Walter Watson Randolph, B.A.	Columbus

Carl Henry Reuter, B.A.	Columbus
Wilbur Anthony Ricketts, B.A.	Coshocton
Edward Lee Sager.....	Grove City
Thomas Andrew Simons, B.Sc.	Columbus
Louis Homer Skimming, B.A.	Columbus
James Monroe Snider, B.A.	Columbus
James Calvin Steiner, A.B. (Otterbein College).....	Pandora
Harold Leo Stelzer, B.Sc.	Spencerville
Harry Boyd Stewart.....	Ashland
Donald Stuart Tarbox, B.Sc.	Hilliards
George James Thomas, B.Sc.	Byesville
Robert Larue Thomas, B.A.	Columbus
Kyle Edward Townsend, B.Sc.	Lima
William Wendel Weis, B.Sc.	Celina
John Charles Fremont Wilkinson, B.Sc.	Bellaire
Edward Elbert Woldman, B.A.	Cleveland

(Thirty-nine candidates)

DOCTOR OF MEDICINE (COLLEGE OF HOMOEOPATHIC MEDICINE)

Gay Arden Rowland (As of the Class of 1922).....	South Euclid
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(One candidate)

DEGREES CONFERRED DURING THE CURRENT ACADEMIC YEAR

DOCTOR OF MEDICINE

As of the Class of 1922

Maynard Steele Cherington.....	Toledo
Thomas Earl Zinkan.....	Lima

(Two candidates)

COLLEGE OF PHARMACY

Dean: CLAIR ALBERT DYE

BACHELOR OF SCIENCE IN PHARMACY

Nellis Glenn Christman.....	Massillon
Chester Howard De Witt.....	Millersburg
Raymond Clayton Rice.....	Canton
Melville Schwartz	Cleveland
Foreman Ward Slager.....	Circleville
Fred Biggs Smith.....	Columbus
Stella Spira	Columbus
Russell Elmer Stiverson.....	Logan

(Eight candidates)

COLLEGE OF VETERINARY MEDICINE

Dean: DAVID STUART WHITE

DOCTOR OF VETERINARY MEDICINE

George E. Aidman.....	Columbus
Derwin Willoughby Ashcraft.....	Columbus
Clinton DeLos Barrett.....	Leesburg
Leslie Herman Bennett.....	Monroe, La.
John Warden Burke.....	Pittsburgh, Pa.
Fred Arthur Clarke.....	Akron
Gay Hartley Duke.....	Liverpool, W. Va.
Louis Goldberg.....	Philadelphia, Pa.

Stanley Palmer Graham	Columbus
George Dewey Jelen	Cincinnati
Harry Leslie Kidd	Wykoff, Minn.
James Addison McComb	Heyworth, Ill.
John Joseph McCrillis	Douglas, Wyo.
Emmett Hugo Marquardt	Bloomington, Ill.
Byron Phillips Merrick	Columbus
Charles David Morrow	Bryan
Edgar Michael Neiswander	Rawson
Gerald Francis O'Malley	Clinton, Mass.
Benjamin Franklin Otto	Shandon
Roger Neland Owen	East Cleveland
Ernest Hoyt Patchen	Danbury, Conn.
Fred Clarence Pieper	Columbus
Alphonso Smith, A.B. (Lincoln University)	Columbus
Carl Joseph Wallen	New York City

(Twenty-four candidates)

PROFESSIONAL CERTIFICATES

CERTIFICATE IN PUBLIC HEALTH NURSING

Catherine Cecelia Forquer, R.N.	Columbus
Antoinette Gertrude Frecker, R.N.	Columbus
Una Belle Frisbie, R.N.	Columbus
Florence Marie McElwee, R.N.	Columbus
Florence Curtis Thorn, R.N.	Columbus

(Five candidates)

CERTIFICATE OF GRADUATE NURSE

Margaret Elizabeth Barrington	Lima
Carolyn Naomi Fritsche	Piqua
Pearl Elizabeth Houser	Kenton
Mildred Sophronia Hutchings	Mechanicsburg
Lulu Mae Kauble	Forest
Verna Fay McMillen	Cambridge
Della Mae Pollic	Rushsylvania
Mary Anne Summerfield	Kenton
Mary Stewart Taylor, B.Sc. in H.E.	Portsmouth

(Nine candidates)

CERTIFICATES GRANTED DURING THE CURRENT ACADEMIC YEAR

CERTIFICATE OF GRADUATE NURSE

Bridget Anne Connor	Hilliards
Nellie Mae Ewing	Kenton
Laura Louwilda Glover	Sharpsburg
Elizabeth Eunice Gorsuch	Westerville
Mae Leora Tisdale	Findlay
Madelyn Allene Yeager	Perrysburg

(Six candidates)

CERTIFICATE OF PHARMACEUTICAL CHEMIST

Louis Abraham	Columbus
Royal Jennings Adams	Lancaster
David Sidney Adelman	Canton
Sol Arthur Allen	Cleveland
Harry Lewis Arian	Cleveland

Walter Aronowsky	Cleveland
Homer Stanley Blaser	Upper Sandusky
Robert Bancroft Bletz	Cleveland
Marion Francis Buirley	Jackson Center
Hyman I. Buzney	Cleveland
William Thomas Carey	Girard
Hyman Samuel Cohen	Cleveland
Kenneth Willis Cook	Sandusky
Simon Cooper	Columbus
William Edward Davis	Columbus
Clarence Andrew Ebenhack	Chillicothe
Oliver Charles Eisenhut	Sidney
Ralph Milton Ferris	Utica
Elliott George Friedman	Lorain
Bernard Ginsburg	Cleveland
Louis Herman Harris	Cleveland
George James Heer	Columbus
Moses Herskovitz	Cleveland
Jacob Smith Hoffman	Columbus
Claude Huston	New Straitsville
Samuel Harry Israel	Cleveland
Morris Lewis Kaplow	Cleveland
William Eugene Keyser, B.Sc. in Agr.	Homerville
Harry Leroy Knox	Columbus
Sol Krichman	Cleveland
Nathan Max Lipschitz	Cleveland
Carl Elmer Look	Marietta
Simon Irwin Lyons	Cleveland
Carl Russell McKee	Washington C. H.
Hyman Novasel	Alliance
Nelson Lewis Ohly	Sandusky
John Frederick Owens	Coshocton
Carl William Rodewig	Bellaire
Robert Charles Ruhlman, Jr.	Portsmouth
Sidney Russack	Ashtabula
Katherine Elizabeth Scher	Cleveland
Robert Solomon Schultz	Cleveland
Edward Schuman	Canton
Mollie Sepsenwol	Lorain
Abraham Soskin	Canton
Willard Anton Staker	Franklin Furnace
Harry Leslie Steinmetz (As of the Class of 1922)	Columbus
Mortimer Steil	Cleveland
Charles Kirby Wheeler (As of the Class of 1922)	Jackson Center
Lucille Willis	Cleveland
Charles Ellsworth Zollinger	Columbus

(Fifty-three candidates)

CERTIFICATES GRANTED DURING THE CURRENT ACADEMIC YEAR

CERTIFICATE OF PHARMACEUTICAL CHEMIST

As of the Class of 1922

Walter Gaston Bulger	East Liverpool
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(One candidate)

As of the Class of 1923

James Ray Altman	Cleveland
Isidore Edward Emerman	Cleveland
David Irwin Glass	Cleveland
Abe Goldberg	Cleveland

Irwin Horwitz	Cleveland
Abraham Meyer Karlinsky.....	Cleveland
Jack Zwick	Cleveland
(Seven candidates)	

SUMMARY OF DEGREES

Graduate School.....	108	
Degrees conferred during year.....	41	149
College of Agriculture.....	187	
Degrees conferred during year.....	20	207
Applied Optics.....		3
College of Arts, Philosophy, and Science.....	242	
Degrees conferred during year.....	56	298
College of Commerce and Journalism.....	184	
Degrees conferred during year.....	25	209
College of Dentistry.....	51	
Degrees conferred during year.....	2	53
College of Education.....	133	
Degrees conferred during year.....	27	160
College of Engineering.....	237	
Degrees conferred during year.....	1	238
College of Law.....	38	
Degrees conferred during year.....	2	40
College of Medicine (40 degrees) (14 certificates).....	54	
During year (2 degrees) (6 certificates).....	8	62
College of Pharmacy (8 degrees) (51 certificates).....	59	
During year (8 certificates).....	8	67
College of Veterinary Medicine.....		24
		1510
Total degrees and certificates conferred on women.....	381	
Degrees and certificates conferred on women during year.....	56	437
Total degrees and certificates conferred on men.....	939	
Degrees and certificates conferred on men during year.....	134	1073
		1510
Candidates for degrees and certificates.....	1481	
Candidates receiving two degrees.....	29	
Total degrees and certificates conferred.....	1510	

